

Academic Research and Development Expenditures

Fiscal Year 1998

Detailed Statistical Tables

Division of Science Resources Studies
Directorate for Social, Behavioral, and Economic Sciences

National Science Foundation



September 2000

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M. Marge Machen, Project Officer

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GETTING INFORMATION ON THE WORLD WIDE WEB

GENERAL NOTES

The data presented in this report were compiled from the National Science Foundation's (NSF's) fiscal year (FY) 1998 Survey of Research and Development Expenditures at Universities and Colleges (academic R&D expenditures survey). They refer to science and engineering expenditures for separately budgeted research and development (R&D). Terms used in institutional accounting procedures are incorporated throughout the tables.

The term "separately budgeted R&D expenditures" includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. "Expenditures" are funds actually spent by an institution during its fiscal year. "Separately budgeted R&D equipment purchased from current funds" includes all research equipment purchased under sponsored research project awards.

"Federally funded research and development centers" (FFRDCs) are R&D-performing organizations that range from the traditional contractor-owned/ contractor-operated or Government-owned/contractor-operated organizational structures to various degrees of contractor/Government control and ownership. FFRDCs are formed to achieve particular Federal R&D objectives that cannot be met as effectively by existing organizations.

The terms "imputation" and "imputed data" refer to the computerized process by which NSF develops

estimates of data when institutions do not furnish the information upon request. Using this process, estimates are developed that are based primarily on key data items reported in prior years' surveys. When these key data items are not available, estimates are based on figures derived from data of respondent institutions that have similar characteristics, including highest degree granted and type of institutional control (public or private). In this publication, the letter "i" is used to identify imputed data and the letter "e" is used when institutional respondents indicated that their data were estimated, or when data required slight mathematical adjustments.

Data presented in trend tables are assembled from the most recently completed survey cycle. Since prior years' data are reviewed for consistency with current year responses and, when necessary, are revised in consultation with institutional respondents, references to prior years' data should be restricted to this document.

Requests for additional information concerning the survey findings for the current or prior surveys should be directed to M. Marge Machen at—

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SECTION A.

TECHNICAL NOTES

SCOPE OF THE SURVEY

Data for the National Science Foundation's (NSF's) fiscal year (FY) 1998 report on research and development (R&D) expenditures were collected from 556 institutions of higher education in the United States and Outlying Areas. These institutions have doctoral programs in science and engineering (S&E), are historically black colleges or universities (HBCUs) that expend any amount of separately budgeted R&D in S&E, or are other institutions that expend at least \$150,000 in separately budgeted R&D in S&E. This is the first year since FY 1993 that the entire population of institutions meeting these criteria was surveyed. See the section below, FY 1998 survey frame design, for additional information.

In addition, the survey includes 17 federally funded research and development centers (FFRDCs). To qualify, an FFRDC must be engaged in basic or applied research, development, or management of R&D activities, and the results of these activities must be directly monitored by the Federal Government—usually a single agency—in a relationship expected to be maintained on a long-term basis. The center must be operated, managed, and administered by either a university or consortium of universities as an autonomous organization or as an identifiable separate operating unit of its parent institution. Finally, 70 percent or more of the center's financial support must be received from the Federal Government.

Although the same survey form (NSF Form 411) is used to collect data from both academic institutions and FFRDCs, the resulting data are presented separately in this report. The survey population was reviewed prior to mailing the questionnaires to ensure that each institutional classification was accurate. Characteristics of the institutions were reviewed before and during the course of the survey to determine if changes had occurred (i.e., in highest degree granted or in terms of institution openings, closings, or mergers).

FY 1998 SURVEY FRAME DESIGN

Starting with the FY 1998 survey, NSF will conduct a full population survey each year. Prior to the FY 1998 data collection, NSF conducted a thorough review of higher education institutions to ensure that all universities and colleges meeting the criteria were included in the survey universe. NSF revised the FY 1998 survey frame design as follows:

- Only S&E bachelor's and higher degree-granting institutions would be surveyed; there were only 4 two-year degree-granting institutions in the FY 1993 population and they accounted for less than 0.01 percent of the total R&D expenditures.
- All S&E doctorate-granting institutions and all HBCUs would be surveyed.
- All S&E master's and bachelor's degree-granting institutions that report at least \$150,000 in separately budgeted R&D expenditures in S&E in the previous fiscal year would be surveyed. For the FY 1998 survey only, NSF mailed a postcard to the master's and bachelor's degree-granting institutions that were in the FY 1993 academic R&D expenditures population but not surveyed in the sample years (FY 1994-97) to determine if they met the \$150,000 expenditure criteria. Institutions with a minimum of \$150,000 were retained in the survey population. This represents a change from previous surveys which used a minimum of \$50,000 as the eligibility threshold.

As a result of adding and deleting institutions from the survey population to comply with the changed criteria, the overall number of institutions surveyed increased from 493 in FY 1997 to 556 in FY 1998.

SURVEY INSTRUMENT

Most major R&D performers have incorporated into their recordkeeping systems the data that are essential to complete this survey, thereby ensuring a consistent format from one year to the next. Such consistency yields the most useful statistics for time series. As a rule, information to complete this questionnaire is found within the institutions' year-end accounting records.

The survey questionnaire consists of four main items:

Item 1 requests that institutions report their total current expenditures for separately budgeted science and engineering R&D for all activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit, i.e., research centers, within the institution by source of funds. In addition, institutions are asked to provide the percentage of the total and the percentage of the federally financed expenditures that are considered basic research. Included also are research funds for which an

outside organization, educational or other, is a subrecipient. Care should be observed when interpreting data on source of funds; for example, industry R&D support is limited to grants and contracts for R&D activities from profit-making organizations. Total industry funds excludes research funded through unrestricted accounts and from corporate foundations, endowments, and fellowships to students; those funds would be included in an institution's own funding totals. An increasing number of institutions have linkages with industry and foundations via subcontracts, thus complicating the identification of funding source. In addition, institutional policy may determine whether unrestricted State support is reported as State or as institutional funding.

Item 1A, added in FY 1996, requests total and federally financed current fund expenditures for separately budgeted science and engineering R&D passed through the institution to subrecipients. Institutions were asked to break out the subrecipient category by "educational" and "other."

Item 2 requests total and federally financed current fund expenditures for separately budgeted R&D activities by detailed S&E fields. Major fields remain unchanged from the FY 1994 questionnaire. In the FY 1997 questionnaire, a subfield of bioengineering/bio-medical engineering was added under Engineering. When interpreting these data at the detailed discipline level, users should keep in mind that there is considerable interdisciplinary and multidisciplinary activity.

Item 3 requests the portions of total and federally financed expenditures reported in items 1 and 2 that were

used for the purchase of research equipment out of current funds. This portion includes all research equipment purchased under sponsored research project awards and disbursed in the same detailed disciplines as in item 2. These data are of special interest to Federal and institutional policymakers in determining current funding levels for scientific research instrumentation.

ITEM 1A ANALYSIS

The responses to this item were not published in any of the Detailed Statistical Tables in FYs 1996 and 1997, but the technical notes for those publications included summary tables. For FY 1998, in addition to the following summary tables, NSF is including two ranking tables in the Section A tables based on item 1A data.

This item was completed by 89.4 percent of the FY 1998 respondents. Total R&D expenditures passed through to subrecipients, \$994 million, represented 4.9 percent of the item 1A respondents' total R&D spending and 3.9 percent of all institutions separately budgeted R&D in FY 1998 (table 1). The doctorate-granting institutions reported a similar percentage of pass-through funds as the non-doctorate-granting institutions. Item 1A respondents from doctorate-granting institutions reported \$978 million, or 4.9 percent, of their total R&D expenditures were passed through to subrecipients, versus \$15 million or 4.6 percent of item 1A non-doctorate-granting respondents. Item 1A respondents from private institutions reported a higher percentage (5.5 percent) of pass-through funds than those from public institutions (4.5 percent).

Table 1. FY 1998 Item 1A Summary of Total Academic R&D Expenditures

[Dollars in thousands]

Degree and control	All respondents' total R&D ¹	Item 1A ² respondents' total R&D	R&D expenditures passed to subrecipients		
			Educational	Other	Total ³
All academic institutions.....	25,611,558	20,362,359	478,618	336,997	993,633
Doctorate.....	25,221,236	20,026,209	468,981	331,833	978,178
Non-doctorate.....	390,322	336,150	9,637	5,164	15,455
Public.....	17,275,676	13,070,127	297,439	207,725	591,317
Private.....	8,335,882	7,292,232	181,179	129,272	402,316

¹This total is the amount reported by all survey respondents prior to imputation for non-respondents.

²This total is the amount reported by respondents who answered item 1A. Item 1A measures the amount of R&D expenditures passed through the institution to subrecipients.

³Detail may not sum to totals due to rounding and because some institutions provided only total and Federal R&D expenditure data passed through to subrecipients.

Respondents to this question reported \$845 million in Federal R&D funds passed through to subrecipients. This amount represented 7.2 percent of the Federal support reported by item 1A respondents and 5.6 percent of the \$15 billion in total Federal R&D expenditures (table 2).

Table A-6 shows the total amount of R&D expenditures passed through to subrecipients for the 100 institutions reporting the highest amounts. Table A-7 shows the total amount of Federal R&D expenditures passed through to subrecipients for the 100 institutions reporting the highest amounts. Attendees at a June 1999 workshop in Boulder, Colorado recommended publishing these data in this report. Respondents who provided item 1A data were contacted to obtain their concurrence with the publication of these data at the institutional level.

RESPONSE RATE

The FY 1998 survey questionnaires were mailed in November 1998. Respondents could choose to submit a paper questionnaire or to use a newly developed Web data collection system to respond to the survey. Every effort was made to maintain close contact with respondents in order to preserve both consistency and continuity in the resultant data. Questionnaires were carefully examined for completeness upon receipt. Com-

puterized facsimiles of the survey data were then prepared for each institution, comparing the current and 2 prior years' data and noting any substantive disparities. These facsimiles were mailed to the respondents so that they could provide revisions before final processing and tabulation of the data.

Respondents were asked to explain significant discrepancies between current and prior years' reporting patterns previously verified as correct (see Data Anomalies for more information). They were encouraged to correct prior years' data if anomalies were identified. When updated or amended figures covering past years were submitted, NSF correspondingly changed trend data. Similarly, if a respondent institution underwent an organizational change, such as a merger, NSF incorporated the effects of such changes into prior years' data.

By the survey closing date at the end of July, forms had been received from 548 universities and colleges out of the academic population of 556, resulting in a 99-percent response rate. Responses were received from 98.3 percent of all doctorate-granting institutions, where 98.4 percent of the estimated national R&D expenditures in S&E fields was disbursed. Also, forms were received from all of the 17 FFRDCs. Table A-1 displays a detailed breakdown of the response rates by highest degree granted.

Table 2. FY 1998 Item 1A Summary of Federal Academic R&D Expenditures

[Dollars in thousands]

Degree and Control	All Respondents' Federal R&D ¹	Item 1A ² Respondents' Federal R&D	Federal R&D Expenditures Passed to Subrecipients		
			Educational	Other	Total ³
All academic institutions.....	14,991,135	11,762,079	420,957	274,536	845,498
Doctorate.....	14,727,758	11,533,044	411,429	270,288	831,516
Non-doctorate.....	263,377	229,035	9,528	4,248	13,982
Public.....	8,937,037	6,632,272	256,411	172,239	501,532
Private.....	6,054,098	5,129,807	164,546	102,297	343,966

¹ This total is the amount reported by all survey respondents prior to imputation for non-respondents.

² This total is the amount reported by respondents who answered item 1A. Item 1A measures the amount of R&D expenditures passed through the institution to subrecipients.

³ Detail may not sum to totals due to rounding and because some institutions provided only total and Federal R&D expenditure data passed through to subrecipients.

Oregon Health Sciences University is the only institution appearing among the first 100 universities and colleges ranked by total R&D expenditures that did not respond to the survey in FY 1998. Users should be aware that the FY 1998 data for this institution were imputed.

NATIONAL TOTAL AND IMPUTATION

To provide a national estimate for all universities and colleges performing R&D in FY 1998, it was necessary to implement two statistical procedures. First, data were estimated by "imputation" for the eight institutions that had not responded by the closing date of the survey, using imputation techniques that have been used consistently since FY 1976. Second, data were also imputed for universities and colleges that submitted only partial responses. The imputed total was \$124 million, or 0.5 percent of the \$25.7 billion total R&D expenditures, as shown in Table A-2.

Tables A-3a and A-3b present breakdowns of the total and federal imputed amounts by S&E fields. The dollar amount imputed is displayed along with the percentage it represents of the national estimate for universities and colleges in a particular field. The amount imputed is similarly broken down by source of funds in table A-4.

A number of surveyed institutions have responded only intermittently in past years, providing data one year, not responding for one or more subsequent years, and then providing data again. For the years in which no response was received, data have been imputed as previously described. Although the imputation algorithm accurately reflects national trends, it cannot account for specific trends at individual institutions. For this reason a separate backcasting of prior years' data was performed, following current-year imputation.

For each institution, formerly imputed key variables for items 1 to 3 were recomputed to ensure that the imputed data accurately represent the growth patterns shown by reported data. If data were reported for fiscal years 1995 and 1998 but not for the intervening years, for example, the difference between the reported figures for each item total was calculated and evenly distributed across the intervening years (1996-97). The new figures were spread across disciplines (items 2 and 3) or sources of support (item 1) on the basis of the most recent reporting pattern. A clean facsimile was generated for each of the institutions undergoing these

procedures and returned to the school for comment. These procedures result in much more consistent reporting trends for individual institutions but have little effect upon aggregate figures reflecting national totals.

DATA ANOMALIES

Aggregate academic expenditure data are generally consistent from year to year, although data for individual institutions may vary considerably. Data anomalies may reflect true increases or decreases in expenditures or may be the result of changes in reporting methodology.

MIT is in the process of refining the distribution of expenses for the FYs 1997 and 1998 data to recognize research that is incorrectly classified as interdisciplinary research.

STATE TABLES

The Detailed Statistical Tables showing R&D expenditures at individual doctorate-granting institutions by State, now provide detailed campus listings for the University of Tennessee and the University of Colorado in FY 1998. Louisiana State University plans to provide the same detailed data beginning with their FY 1999 survey submission.

HIGHEST-DEGREE-GRANTED TABLES

Several longitudinal tables display data for institutions whose highest S&E degree granted is at the doctoral level. In tables produced prior to FY 1992, it would have been difficult to identify whether changes in yearly R&D expenditures were caused by changes in expenditure levels or in the number of doctorate-granting institutions. In order to maintain a consistent group of institutions across all years, the highest-degree-granted status for each institution is based on the highest degree granted in the most recent year, FY 1998.

DATA AVAILABILITY

Data published in this report are also available in machine-readable form on the World Wide Web. Single-year or multi-year data files are available with data for FYs 1975-98.

Information on file formats and the years for which they are available can be found on the World Wide Web at <http://www.nsf.gov/sbe/srs/rdexp98/rdpub98/98pubuse.htm>.

Institutional profiles containing selected data items are available on the World Wide Web (<http://www.nsf.gov/sbe/srs/profiles/start.htm>). These profiles cover data from this survey as well as data collected in NSF's other academic S&E surveys: the Survey of Graduate Students and Postdoctorates in Science and Engineering (graduate student survey) and the Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions (Federal S&E support survey). The profiles are also linked to the corresponding ranking table of each survey.

Institutional researchers can obtain data from several academic S&E resources through the Web Computer-Aided Science Policy Analysis and Research (WebCASPAR) database system, which is an easy-to-use tool for the retrieval and analysis of statistical data on academic S&E resources. WebCASPAR provides an extensive and growing data library with multi-year statistics on the state of higher education in general

and on academic S&E resources specifically. This data library is based on a set of standard institutional and field-of-science definitions across the multiple sources used to develop the database. The WebCASPAR program includes built-in help capabilities to facilitate the use and interpretation of the data.

The latest version of WebCASPAR can be accessed via the World Wide Web at (<http://caspar.nsf.gov/webcaspar>).

WebCASPAR data are drawn from a number of sources. All data are available for individual institutions, by State, and at the national level. Longitudinal data from surveys of universities and colleges conducted by the NSF Division of Science Resources Studies include the academic R&D expenditures survey, the Federal S&E support survey, and the graduate student survey. Data from the surveys of universities and colleges conducted by National Center for Education Statistics include earned degrees, opening fall enrollment, faculty salaries, tenure and fringe benefits, and financial statistics.

SECTION A.

TABLES

SECTION A. TABLES

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Table A-1. Response rates for the academic research and development expenditures survey, by respondent type and highest degree granted: fiscal year 1998

Respondent type and highest degree granted	Number in survey universe	Number of complete responses	Number of partial responses	Total number of responses	Response rate
Total	573	445	120	565	98.6
Universities and colleges	556	428	120	548	98.6
Doctorate	358	277	75	352	98.3
Master's	118	91	26	117	99.2
Bachelor's and below	80	60	19	79	98.7
Academically-administered FFRDCs	17	17	0	17	100.0

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table A-2. Imputed amounts for total research and development expenditures at universities and colleges, by highest degree granted:
fiscal year 1998**

[Dollars in millions]

Highest degree granted	Total separately budgeted R&D expenditures	Imputed amount	Imputed amount as percent of total
Total	25,735	124	0.5
Doctorate granting institutions	25,342	121	.5
Non-doctorate granting institutions	394	3	.8

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table A-3a. Imputed amounts for total research and development expenditures at universities and colleges, by science and engineering field: fiscal year 1998

[Dollars in millions]

Science and engineering field	Total separately budgeted R&D expenditures	Imputed amount	Imputed amount as percent of total
Total	25,735	124	0.5
Engineering	4,054	59	1.4
Aeronautical and astronautical	241	30	12.4
Bioengineering/Bio-medical	102	0	.0
Chemical	325	10	3.2
Civil	491	13	2.7
Electrical	1,023	82	8.0
Mechanical	566	59	10.4
Metallurgical and materials	420	5	1.2
Other, n.e.c.	885	104	11.8
Physical sciences	2,440	38	1.5
Astronomy	299	6	1.9
Chemistry	863	15	1.8
Physics	1,053	16	1.5
Other, n.e.c.	225	1	.4
Environmental sciences	1,615	62	3.8
Atmospheric	269	26	9.8
Earth sciences	506	68	13.3
Oceanography	545	57	10.5
Other, n.e.c.	295	36	12.1
Mathematical sciences	308	5	1.6
Computer sciences	754	6	.8
Life sciences	14,547	228	1.6
Agricultural sciences	1,990	73	3.7
Biological sciences	4,549	144	3.2
Medical sciences	7,456	310	4.2
Other, n.e.c.	553	34	6.1
Psychology	437	8	1.8
Social sciences	1,121	19	1.7
Economics	261	7	2.6
Political science	178	2	1.2
Sociology	249	8	3.4
Other, n.e.c.	433	6	1.3
Other sciences, n.e.c.	460	5	1.1

NOTES: The imputation rate at the total level is lower than the imputation rates at the S&E field levels because many institutions could provide totals but not the S&E field details.

Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table A-3b. Imputed amounts for federally financed research
and development expenditures at universities and
colleges, by science and engineering
field: fiscal year 1998**

[Dollars in millions]

Science and engineering field	Total separately budgeted R&D expenditures	Imputed amount	Imputed amount as percent of total
Total	15,077	91	0.6
Engineering	2,349	23	1.0
Aeronautical and astronautical	168	29	17.0
Bioengineering/Bio-medical	57	0	.0
Chemical	168	7	4.1
Civil	195	8	4.0
Electrical	681	75	11.0
Mechanical	350	51	14.7
Metallurgical and materials	239	2	.7
Other, n.e.c.	492	86	17.4
Physical sciences	1,735	23	1.3
Astronomy	185	3	1.5
Chemistry	577	9	1.5
Physics	804	11	1.4
Other, n.e.c.	168	0	.1
Environmental sciences	1,068	38	3.6
Atmospheric	209	23	11.1
Earth sciences	305	56	18.4
Oceanography	362	43	11.9
Other, n.e.c.	192	30	15.8
Mathematical sciences	212	4	2.0
Computer sciences	518	5	1.0
Life sciences	8,300	112	1.3
Agricultural sciences	533	23	4.3
Biological sciences	2,914	96	3.3
Medical sciences	4,546	224	4.9
Other, n.e.c.	307	29	9.4
Psychology	297	6	2.0
Social sciences	418	9	2.1
Economics	92	3	3.6
Political science	53	1	2.4
Sociology	118	4	3.5
Other, n.e.c.	155	2	1.5
Other sciences, n.e.c.	178	3	1.9

NOTES: The imputation rate at the total level is lower than the imputation rates at the S&E field levels because many institutions could provide totals but not the S&E field details.

Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table A-4. Imputed amounts for research and development expenditures at universities and colleges, by source of funds: fiscal year 1998

[Dollars in millions]

Source of funds	Total separately budgeted R&D expenditures	Imputed amount	Imputed amount as percent of total
Total	25,735	124	0.5
Federal Government	15,077	91	.6
State and local government	1,928	20	1.0
Industry	1,870	18	1.0
Institutional funds	4,999	27	.5
All other sources	1,861	18	1.0

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table A-5. Number of surveyed institutions for the academic research and development expenditures survey at all institutions, by respondent type and highest degree granted:fiscal years 1993-1998

Respondent type and highest degree granted	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998
Total	700	518	517	511	511	573
Universities and colleges	681	500	499	493	493	556
Doctorate	350	349	348	343	343	358
Master's	202	84	83	84	84	118
Bachelor's and below	129	67	68	66	66	80
Academically-administered FFRDCs	19	18	18	18	18	17

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table A-6. Total amount of R&D expenditures passed through
to subrecipients by universities and colleges,
ranked by amount passed through:
fiscal year 1998**

[Dollars in thousands]

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Institutions ranked by total amount of R&D expenditures passed through ¹	Total R&D expenditures	Total R&D expenditures passed through	Amounts passed through	
			Educational subrecipients	Other subrecipients
Total, all institutions	25,735,268	993,633	478,618	336,997
1 University of Colorado	311,203	48,527	9,522	39,005
2 Harvard University	306,100	35,550	--	--
3 MA Institute of Tech	413,098	33,932	1,558	32,374
4 Georgetown University	116,611	24,906	12,321	12,585
5 U of Southern California	268,806	24,229	13,995	10,234
6 Duke University	282,388	22,314	14,053	8,261
7 Columbia University	267,007	21,860	9,107	12,753
8 University of Arizona	302,328	20,807	10,731	10,076
9 U of Pennsylvania	333,477	18,107	9,743	8,364
10 Northwestern University	223,235	18,019	--	--
Total, 1st 10 institutions	2,824,253	268,251	81,030	133,652
11 UT-Houston Hlth Sci Ctr	101,993	16,806	7,533	9,273
12 Pennsylvania State U	362,643	16,460	7,457	9,003
13 U TX Austin	244,843	16,125	10,836	5,289
14 U MD College Park	223,190	15,607	--	--
15 Yale University	262,680	15,341	--	--
16 Texas A&M University	393,720	15,191	11,737	3,454
17 U WI Madison	443,695	15,077	8,585	6,492
18 U of Illinois Urbana	338,841	15,024	--	--
19 Cornell University	363,511	14,418	--	--
20 U of NC Chapel Hill	235,296	13,244	8,425	4,819
Total, 1st 20 institutions	5,794,665	421,544	135,603	171,982
21 University of Pittsburgh	213,842	12,038	6,452	5,586
22 NC State University	254,254	12,022	6,190	5,832
23 U of Alabama Birmingham	227,720	11,365	--	--
24 University of Rochester	174,617	10,907	7,034	3,873
25 Ohio State University	301,518	10,864	5,650	5,214
26 University of Chicago	151,635	10,469	8,518	1,951
27 Georgia Institute of Tech	259,233	9,288	--	--
28 Washington University	269,550	9,275	5,580	3,695
29 George Washington U	74,481	9,092	9,092	0
30 Oregon State University	138,240	8,908	6,168	2,740
Total, 1st 30 institutions	7,859,755	525,772	190,287	200,873
31 Rutgers the State U NJ	197,053	8,907	6,517	2,390
32 Purdue University	216,479	8,533	6,932	1,601
33 University of Kentucky	161,346	8,362	8,362	0
34 Louisiana St U, All Camp	208,928	8,258	5,283	2,975
35 U of South Florida	104,325	8,157	--	--
36 University of Miami	136,972	8,060	4,037	4,023
37 New Mexico State Univ	77,370	8,018	2,501	5,517
38 University of Utah	142,956	7,835	4,134	3,701
39 Florida State University	94,463	7,698	1,643	6,055
40 University of Dayton	45,000	7,243	--	--
Total, 1st 40 institutions	9,244,647	606,843	229,696	227,135

See explanatory information and SOURCE at end of table.

**Table A-6. Total amount of R&D expenditures passed through
to subrecipients by universities and colleges,
ranked by amount passed through:
fiscal year 1998**

[Dollars in thousands]

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Institutions ranked by total amount of R&D expenditures passed through ¹	Total R&D expenditures	Total R&D expenditures passed through	Amounts passed through	
			Educational subrecipients	Other subrecipients
41 U TX Hlth Sci Ctr San Ant	85,407	7,240	3,168	4,072
42 Wake Forest University	76,893	7,122	7,122	0
43 Indiana University	171,754	7,050	4,479	2,571
44 University of Florida	274,862	6,898	6,208	690
45 U of Iowa	199,063	6,883	--	--
46 Tulane University	87,858	6,792	6,176	616
47 Rice University	41,067	6,405	6,034	371
48 Emory University	172,884	6,319	3,629	2,690
49 SUNY Hlth Sci Ctr Brklyn	27,517	6,090	6,090	0
50 Wayne State University	138,456	6,063	2,273	3,790
Total, 1st 50 institutions	10,520,408	673,705	274,875	241,935
51 Michigan State University	193,611	5,749	3,980	1,769
52 U of South Carolina	92,785	5,691	3,960	1,731
53 University of Georgia	217,945	5,484	--	--
54 SUNY Buffalo	151,650	5,459	3,694	1,765
55 U of Nebraska Lincoln	118,857e	5,420e	5,420e	0e
56 University of Kansas	117,115	5,353	3,302	2,051
57 University of Virginia	133,049	5,317	3,352	1,965
58 U TX El Paso	14,092	5,093	2,670	2,423
59 Mt Sinai Sch Med	109,448	5,065	5,065	0
60 VA Polytech Inst & St U	167,118	5,065	2,800	2,265
Total, 1st 60 institutions	11,836,078	727,401	309,118	255,904
61 Baylor Col of Medicine	216,528	5,063	5,063	0
62 Allegheny U of Hlth Sci	95,984	5,030	5,030	0
63 Yeshiva University	99,000	5,020	5,020	0
64 Temple University	63,024	4,986	4,986	0
65 Brown University	73,977	4,979	2,991	1,988
66 Brandeis University	44,589	4,869	0	4,869
67 Virginia Commonwealth U	80,538	4,837	3,028	1,809
68 University of Cincinnati	159,695	4,769	2,170	2,599
69 Washington State U	95,422	4,690	2,559	2,131
70 Princeton University	115,996	4,661	2,936	1,725
Total, 1st 70 institutions	12,880,831	776,305	342,901	271,025
71 U of New Hampshire	52,359	4,583	--	--
72 Mississippi State U	100,410	4,537	4,325	212
73 University of Oklahoma	126,861	4,535	2,770	1,765
74 New York University	156,452	4,461	2,634	1,827
75 University of New Mexico	125,910	4,443	3,304	1,139
76 U TX MD Anderson Cnrc	141,260	4,410	2,897	1,513
77 Arizona State University	92,019	4,163	--	--
78 Dartmouth College	64,964	3,992	2,682	1,310
79 Vanderbilt University	135,214	3,926	2,365	1,561
80 Loyola U of Chicago	34,241	3,903	3,174	729
Total, 1st 80 institutions	13,910,521	819,258	367,052	281,081

See explanatory information and SOURCE at end of table.

**Table A-6. Total amount of R&D expenditures passed through
to subrecipients by universities and colleges,
ranked by amount passed through:
fiscal year 1998**

[Dollars in thousands]

Page 3 of 3

Institutions ranked by total amount of R&D expenditures passed through ¹	Total R&D expenditures	Total R&D expenditures passed through	Amounts passed through	
			Educational subrecipients	Other subrecipients
81 U of Alabama Huntsville	36,946	3,880	782	3,098
82 University of IL Chicago	151,739	3,838	1,727	2,111
83 Oklahoma State University	71,466	3,734	--	--
84 Colorado State University	140,179	3,605	3,605	0
85 University of Connecticut	134,448	3,594	1,929	1,665
86 U MD Biotechnology Inst	31,861	3,591	3,435	156
87 Sthrn IL U Carbondale	30,490	3,559	1,915	1,644
88 Eastern VA Med School	21,672	3,495	1,566	1,929
89 U of Nevada Las Vegas	16,912	3,424	2,675	749
90 San Diego St University	41,915	3,318	3,114	204
Total, 1st 90 institutions	14,588,149	855,296	387,800	292,637
91 U Arkansas Main	71,686	3,266	3,169	97
92 Thomas Jefferson U	69,460	3,264	3,259	5
93 Kansas State University	81,233	3,237	3,127	110
94 Woods Hole Oceanograph	75,011	2,981	2,981	0
95 Rensselaer Polytech Inst	38,560	2,964	2,104	860
96 University of Louisville	39,147	2,924	1,754	1,170
97 University of Vermont	57,832	2,854	1,564	1,290
98 U TX San Antonio	7,220	2,820	2,257	563
99 U MA Worcester	82,950	2,797	2,797	0
100 Auburn University	87,768	2,743	1,805	938
Total, 1st 100 institutions	15,199,016	885,146	412,617	297,670
Total, all other surveyed institutions	10,536,252	108,487	66,001	39,327

¹ Only the top 100 institutions that reported the largest amount of passed through funds are shown on this table.

NOTE: Detail may not sum to totals due to rounding and because some institutions provided only totals and Federal R&D expenditure data passed through to subrecipients.

KEY: -- = not available
e = estimated

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table A-7. Total amount of Federal R&D expenditures passed through to subrecipients by universities and colleges, ranked by amount passed through: fiscal year 1998

[Dollars in thousands]

Page 1 of 3

Institutions ranked by total amount of R&D Federal expenditures passed through ¹	Federal R&D expenditures	Federal R&D expenditures passed through	Federal amounts passed through	
			Educational subrecipients	Other subrecipients
Total, all institutions	15,076,571	845,498	420,957	274,536
1 University of Colorado	228,342	41,351	8,340	33,011
2 Harvard University	251,876	31,715	--	--
3 MA Institute of Tech	310,741	27,122	1,169	25,953
4 Georgetown University	84,801	24,906	12,321	12,585
5 U of Southern California	190,547	22,685	13,623	9,062
6 Columbia University	229,723	21,115	8,784	12,331
7 University of Arizona	161,999	19,592	9,917	9,675
8 UT-Houston Hlth Sci Ctr	70,446	16,662	7,503	9,159
9 U of Pennsylvania	247,914	16,158	9,018	7,140
10 Northwestern University	127,911	15,709	--	--
Total, 1st 10 institutions	1,904,300	237,015	70,675	118,916
11 Pennsylvania State U	186,274	15,452	6,823	8,629
12 U MD College Park	129,198	15,309	--	--
13 U WI Madison	240,513	14,096	7,954	6,142
14 U of Illinois Urbana	168,871	13,715	--	--
15 Yale University	205,046	13,390	--	--
16 U TX Austin	165,082	13,294	9,190	4,104
17 U of NC Chapel Hill	171,505	13,099	8,425	4,674
18 Duke University	172,532	12,922	12,922	0
19 U of Alabama Birmingham	166,830	10,400	--	--
20 University of Chicago	125,982	9,872	8,112	1,760
Total, 1st 20 institutions	3,636,133	368,564	124,101	144,225
21 Texas A&M University	144,938	9,765	8,029	1,736
22 University of Pittsburgh	168,511	9,731	4,953	4,778
23 Ohio State University	124,177	9,273	4,682	4,591
24 Washington University	187,173	8,873	5,562	3,311
25 Oregon State University	82,416	8,493	6,000	2,493
26 NC State University	79,533	8,488	4,254	4,234
27 Cornell University	204,187	8,144	--	--
28 New Mexico State Univ	56,587	7,692	2,264	5,428
29 Purdue University	92,844	7,648	6,560	1,088
30 University of Utah	100,722	7,466	4,134	3,332
Total, 1st 30 institutions	4,877,221	454,137	170,539	175,216
31 University of Dayton	36,329	7,215	--	--
32 U TX Hlth Sci Ctr San Ant	55,004	7,140	3,168	3,972
33 Florida State University	50,451	7,048	1,560	5,488
34 Rutgers the State U NJ	69,829	7,037	5,255	1,782
35 U of Iowa	115,312	6,775	--	--
36 U of South Florida	35,930	6,653	--	--
37 Tulane University	52,924	6,588	6,066	522
38 George Washington U	45,072	6,456	6,456	0
39 University of Rochester	130,773	6,360	4,144	2,216
40 Rice University	34,772	6,349	5,979	370
Total, 1st 40 institutions	5,503,617	521,758	203,167	189,566

See explanatory information and SOURCE at end of table.

Table A-7. Total amount of Federal R&D expenditures passed through to subrecipients by universities and colleges, ranked by amount passed through: fiscal year 1998

[Dollars in thousands]

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Institutions ranked by total amount of R&D Federal expenditures passed through ¹	Federal R&D expenditures	Federal R&D expenditures passed through	Federal amounts passed through	
			Educational subrecipients	Other subrecipients
41 Indiana University	95,840	6,236	3,731	2,505
42 University of Miami	101,492	6,214	3,873	2,341
43 Louisiana St U, All Camp	67,090	6,105	3,826	2,279
44 University of Kentucky	60,760	6,058	6,058	0
45 SUNY Hlth Sci Ctr Brklyn	18,318	5,924	5,924	0
46 Emory University	118,045	5,660	3,443	2,217
47 University of Florida	106,510	5,621	5,059	562
48 U of Nebraska Lincoln	41,888e	5,420e	5,420e	0e
49 University of Georgia	54,712	5,220	--	--
50 SUNY Buffalo	76,037	5,177	3,495	1,682
Total, 1st 50 institutions	6,244,309	579,393	243,996	201,152
51 Wake Forest University	56,705	5,146	5,146	0
52 Michigan State University	81,146	5,066	3,877	1,189
53 Yeshiva University	80,000	5,020	5,020	0
54 Mt Sinai Sch Med	69,995	4,959	4,959	0
55 U TX El Paso	10,758	4,854	2,670	2,184
56 Allegheny U of Hlth Sci	61,102	4,792	4,792	0
57 Baylor Col of Medicine	110,610	4,696	4,696	0
58 University of Virginia	93,328	4,640	2,980	1,660
59 University of Cincinnati	90,307	4,591	2,108	2,483
60 VA Polytech Inst & St U	82,734	4,582	2,733	1,849
Total, 1st 60 institutions	6,980,994	627,739	282,977	210,517
61 Brown University	44,412	4,563	2,956	1,607
62 U TX MD Anderson Cnrc	63,074	4,410	2,897	1,513
63 Virginia Commonwealth U	48,167	4,405	3,028	1,377
64 Wayne State University	57,646	4,377	1,880	2,497
65 Mississippi State U	42,004	4,355	4,158	197
66 University of New Mexico	84,365	4,335	3,246	1,089
67 U of South Carolina	42,586	4,293	3,443	850
68 New York University	101,426	4,261	2,634	1,627
69 Georgia Institute of Tech	113,643	4,072	--	--
70 Princeton University	69,005	4,058	2,403	1,655
Total, 1st 70 institutions	7,647,322	670,868	309,622	222,929
71 University of Kansas	50,567	4,014	2,062	1,952
72 Brandeis University	28,098	3,982	0	3,982
73 Arizona State University	41,359	3,733	--	--
74 Washington State U	44,510	3,731	1,890	1,841
75 U of Alabama Huntsville	23,772	3,695	782	2,913
76 U of New Hampshire	25,913	3,691	--	--
77 U MD Biotechnology Inst	11,789	3,591	3,435	156
78 Dartmouth College	45,053	3,455	2,418	1,037
79 Loyola U of Chicago	17,685	3,433	2,969	464
80 U of Nevada Las Vegas	9,713	3,321	2,572	749
Total, 1st 80 institutions	7,945,781	707,514	325,750	236,023

See explanatory information and SOURCE at end of table.

**Table A-7. Total amount of Federal R&D expenditures passed through to subrecipients by universities and colleges,
ranked by amount passed through:
fiscal year 1998**

[Dollars in thousands]

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Institutions ranked by total amount of R&D Federal expenditures passed through ¹	Federal R&D expenditures	Federal R&D expenditures passed through	Federal amounts passed through	
			Educational subrecipients	Other subrecipients
81 University of IL Chicago	73,797	3,273	1,608	1,665
82 Vanderbilt University	106,325	3,200	2,141	1,059
83 Thomas Jefferson U	51,728	3,196	3,191	5
84 Eastern VA Med School	9,449	3,118	1,476	1,642
85 San Diego St University	19,721	3,003	2,910	93
86 Colorado State University	80,451	2,899	2,899	0
87 Temple University	28,793	2,837	2,837	0
88 U MA Worcester	53,766	2,797	2,797	0
89 U TX San Antonio	5,112	2,768	2,205	563
90 Woods Hole Oceanograph	64,765	2,740	2,740	0
Total, 1st 90 institutions	8,439,688	737,345	350,554	241,050
91 University of Connecticut	53,189	2,688	1,494	1,194
92 Kansas State University	27,001	2,636	2,534	102
93 University of Oklahoma	54,451	2,428	1,156	1,272
94 Auburn University	27,706	2,389	1,696	693
95 U TX Arlington	11,294	2,373	524	1,849
96 Drexel University	10,929	2,371	2,158	213
97 University of Oregon	27,041	2,304	1,372	932
98 University of Vermont	31,460	2,220	1,083	1,137
99 The University of Alabama	14,909	2,200	2,025	175
100 Desert Research Institute	15,400	2,185	960	1,225
Total, 1st 100 institutions	8,713,068	761,139	365,556	249,842
Total, all other surveyed institutions	6,363,503	84,359	55,401	24,694

¹ Only the top 100 institutions that reported the largest amount of Federal passed through funds are shown on this table.

NOTE: Detail may not sum to totals due to rounding and because some institutions provided only total and Federal R&D expenditure data passed through to subrecipients.

KEY: -- = not available
e = estimated

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

SECTION B.

DETAILED STATISTICAL TABLES

Note

To obtain accurate historical data, use only the latest detailed statistical tables for FY 1998 and not data published earlier. Institutions revise prior-years' data when important changes occur in reporting practices and program classifications, and only the latest tables incorporate such changes.

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**Table B-1. R&D expenditures at universities and colleges,
by source of funds: fiscal years 1953-1998**

[Dollars in millions]

Fiscal year	Total	Source of funds				
		Federal Government	State and local governments	Industry	Institutional funds	All other sources
1953	255	138	37	19	35	26
1954	290	160	42	22	38	28
1955	312	169	47	25	41	30
1956	372	213	53	29	43	34
1957	410	229	60	34	49	38
1958	456	254	68	39	53	42
1959	526	306	76	39	58	47
1960	646	405	85	40	64	52
1961	763	500	95	40	70	58
1962	904	613	106	40	79	66
1963	1,081	760	118	41	89	73
1964	1,275	917	132	40	103	83
1965	1,474	1,073	143	41	124	93
1966	1,715	1,261	156	42	148	108
1967	1,921	1,409	164	48	181	119
1968	2,149	1,572	172	55	218	132
1969	2,225	1,600	197	60	223	145
1970	2,335	1,647	219	61	243	165
1971	2,500	1,724	255	70	274	177
1972	2,630	1,795	269	74	305	187
1973	2,884	1,985	295	84	318	202
1974	3,022	2,032	308	95	368	219
1975	3,409	2,288	332	113	417	259
1976	3,729	2,512	364	123	446	285
1977	4,067	2,726	374	139	514	314
1978 ¹	4,625	3,059	414	170	623	359
1979	5,366	3,598	472	193	735	368
1980	6,063	4,098	491	236	835	403
1981	6,847	4,571	546	291	1,004	435
1982	7,324	4,768	616	337	1,111	491
1983	7,882	4,989	626	389	1,302	576
1984	8,620	5,431	690	475	1,411	613
1985	9,687	6,064	752	560	1,617	694
1986	10,928	6,712	915	700	1,869	732
1987	12,153	7,343	1,023	790	2,168	828
1988	13,463	8,193	1,106	872	2,356	935
1989	14,977	8,991	1,224	994	2,698	1,071
1990	16,286	9,638	1,324	1,127	3,006	1,191
1991	17,585	10,234	1,474	1,204	3,367	1,307
1992	18,818	11,092	1,491	1,279	3,547	1,409
1993	19,951	11,956	1,559	1,360	3,589	1,486
1994	20,966	12,618	1,544	1,415	3,818	1,571
1995	22,098	13,297	1,676	1,481	4,035	1,609
1996	22,962	13,802	1,795	1,596	4,155	1,614
1997	24,188	14,420	1,883	1,700	4,495	1,690
1998	25,735	15,077	1,928	1,870	4,999	1,861

¹ Fiscal year 1978 data are estimated based on data collected from doctorate-granting institutions only.

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-2. R&D expenditures at universities and colleges,
by character of work: fiscal years 1953-1998**

[Dollars in millions]

Fiscal year	Total	Character of work			
		Basic research		Applied research and development	
		Amount	Percent of total	Amount	Percent of total
1953	255	110	43.1	145	56.9
1954	290	136	46.9	154	53.1
1955	312	159	51.0	153	49.0
1956	372	200	53.8	172	46.2
1957	410	240	58.5	170	41.5
1958	456	281	61.6	175	38.4
1959	526	343	65.2	183	34.8
1960	646	433	67.0	213	33.0
1961	763	536	70.2	227	29.8
1962	904	659	72.9	245	27.1
1963	1,081	814	75.3	267	24.7
1964	1,275	1,003	78.7	272	21.3
1965	1,474	1,138	77.2	336	22.8
1966	1,715	1,303	76.0	412	24.0
1967	1,921	1,457	75.8	464	24.2
1968	2,149	1,650	76.8	499	23.2
1969	2,225	1,711	76.9	514	23.1
1970	2,335	1,796	76.9	539	23.1
1971	2,500	1,914	76.6	586	23.4
1972	2,630	2,022	76.9	608	23.1
1973	2,884	2,053	71.2	831	28.8
1974	3,022	2,153	71.2	869	28.8
1975	3,409	2,410	70.7	999	29.3
1976	3,729	2,549	68.4	1,180	31.6
1977	4,067	2,800	68.8	1,267	31.2
1978 ¹	4,625	--	--	--	--
1979	5,366	3,619	67.4	1,747	32.6
1980	6,063	4,036	66.6	2,026	33.4
1981	6,847	4,594	67.1	2,253	32.9
1982	7,324	4,879	66.6	2,445	33.4
1983	7,882	5,303	67.3	2,579	32.7
1984	8,620	5,733	66.5	2,887	33.5
1985	9,687	6,556	67.7	3,131	32.3
1986	10,928	7,493	68.6	3,435	31.4
1987	12,153	8,393	69.1	3,760	30.9
1988	13,463	8,894	66.1	4,569	33.9
1989	14,977	9,792	65.4	5,184	34.6
1990	16,286	10,643	65.4	5,643	34.6
1991	17,585	11,606	66.0	5,979	34.0
1992	18,818	12,516	66.5	6,302	33.5
1993	19,951	13,303	66.7	6,647	33.3
1994	20,966	13,948	66.5	7,018	33.5
1995	22,098	14,765	66.8	7,333	33.2
1996	22,962	15,429	67.2	7,533	32.8
1997	24,188	16,498	68.2	7,689	31.8
1998	25,735	17,382	67.5	8,353	32.5

¹ Separate data for basic research and applied research and development were not collected for fiscal year 1978.

NOTES: R&D expenditures by character of work are based on estimates of basic research provided by universities and colleges.

Because of rounding, detail may not add to totals.

KEY: -- = not available

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-2A. Federally financed R&D expenditures at universities and colleges, by character of work:
fiscal years 1953-1998**

[Dollars in millions]

Fiscal year	Total	Character of work			
		Basic research		Applied research and development	
		Amount	Percent of total	Amount	Percent of total
1953	138	--	--	--	--
1954	160	--	--	--	--
1955	169	--	--	--	--
1956	213	--	--	--	--
1957	229	--	--	--	--
1958	254	--	--	--	--
1959	306	--	--	--	--
1960	405	--	--	--	--
1961	500	--	--	--	--
1962	613	--	--	--	--
1963	760	--	--	--	--
1964	917	--	--	--	--
1965	1,073	--	--	--	--
1966	1,261	--	--	--	--
1967	1,409	--	--	--	--
1968	1,572	--	--	--	--
1969	1,600	--	--	--	--
1970	1,647	--	--	--	--
1971	1,724	--	--	--	--
1972	1,795	1,420	79.1	375	20.9
1973	1,985	1,454	73.2	531	26.8
1974	2,032	1,523	75.0	509	25.0
1975	2,288	1,695	74.1	593	25.9
1976	2,512	1,841	73.3	671	26.7
1977	2,726	2,007	73.6	719	26.4
1978 ¹	3,059	--	--	--	--
1979	3,598	2,577	71.6	1,022	28.4
1980	4,098	2,861	69.8	1,237	30.2
1981	4,571	3,260	71.3	1,311	28.7
1982	4,768	3,402	71.3	1,367	28.7
1983	4,989	3,547	71.1	1,442	28.9
1984	5,431	3,830	70.5	1,601	29.5
1985	6,064	4,343	71.6	1,722	28.4
1986	6,712	4,868	72.5	1,844	27.5
1987	7,343	5,375	73.2	1,968	26.8
1988	8,193	5,678	69.3	2,515	30.7
1989	8,991	6,195	68.9	2,796	31.1
1990	9,638	6,648	69.0	2,989	31.0
1991	10,234	7,127	69.6	3,107	30.4
1992	11,092	7,718	69.6	3,375	30.4
1993	11,956	8,398	70.2	3,559	29.8
1994	12,618	8,856	70.2	3,763	29.8
1995	13,297	9,374	70.5	3,923	29.5
1996	13,802	9,841	71.3	3,962	28.7
1997	14,420	10,389	72.0	4,031	28.0
1998	15,077	10,870	72.1	4,207	27.9

¹ Separate data for basic research and applied research and development were not collected for fiscal year 1978.

NOTES: R&D expenditures by character of work are based on estimates of basic research provided by universities and colleges.

Because of rounding, detail may not add to totals.

KEY: -- = not available

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-3. R&D expenditures at universities and colleges, by source of funds
and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	25,735,268	24,187,601	22,961,974	22,097,902	20,965,816	19,950,563	18,817,827	17,585,279
Source of funds								
Federal Government	15,076,571	14,419,502	13,802,267	13,297,240	12,618,208	11,956,290	11,092,412	10,234,210
State and local governments	1,927,906	1,882,571	1,795,212	1,676,216	1,543,836	1,558,686	1,490,509	1,473,735
Industry	1,870,043	1,699,868	1,595,972	1,480,684	1,415,028	1,360,357	1,278,952	1,203,887
Institutional funds	4,999,381	4,495,281	4,154,713	4,034,792	3,817,881	3,589,059	3,547,420	3,366,833
All other sources	1,861,367	1,690,379	1,613,810	1,608,970	1,570,863	1,486,171	1,408,534	1,306,614
Field								
Engineering, total	4,053,742	3,830,671	3,699,347	3,507,976	3,348,563	3,155,737	3,062,458	2,906,712
Aeronautical and astronautical	241,300	247,317	232,912	241,035	217,342	212,601	196,584	180,207
Bioengineering/Bio- medical ¹	101,961	76,791	--	--	--	--	--	--
Chemical	324,735	316,384	316,876	296,793	278,462	273,632	260,940	244,003
Civil	491,326	461,287	452,726	428,950	401,084	371,417	339,549	315,095
Electrical	1,023,289	949,511	885,897	816,911	743,244	698,129	703,657	679,092
Mechanical	565,799	515,340	517,608	519,312	501,077	482,874	450,575	420,852
Metallurgical and materials	419,973	387,711	348,175	328,789	309,140	298,923	293,946	303,621
Other, n.e.c.	885,359	876,330	945,153	876,186	898,214	818,161	817,207	763,842
All sciences, total	21,681,526	20,356,930	19,262,627	18,589,926	17,617,253	16,794,826	15,755,369	14,678,567
Physical sciences	2,439,559	2,347,081	2,235,066	2,235,953	2,160,145	2,130,401	2,055,163	1,938,704
Astronomy	298,548	285,668	275,252	303,098	266,736	258,520	238,052	211,135
Chemistry	863,302	812,796	792,972	763,057	751,817	740,317	704,579	670,743
Physics	1,052,914	1,044,570	975,013	979,048	948,903	940,495	921,180	881,289
Other, n.e.c.	224,795	204,047	191,829	190,750	192,689	191,069	191,352	175,537
Environmental sciences	1,615,099	1,522,645	1,481,917	1,427,351	1,390,949	1,318,891	1,241,932	1,118,888
Atmospheric	268,820	236,653	224,100	207,755	202,906	210,403	194,175	174,553
Earth sciences	506,354	443,659	440,883	452,290	451,458	416,591	413,018	384,383
Oceanography	544,748	542,621	532,933	472,852	454,641	458,086	427,476	389,347
Other, n.e.c.	295,177	299,712	284,001	294,454	281,944	233,811	207,263	170,605
Mathematical sciences	307,939	287,337	286,030	276,512	279,698	272,248	247,717	230,151
Computer sciences	754,375	707,757	688,349	680,807	644,879	607,679	555,367	554,369
Life sciences	14,547,045	13,497,847	12,687,709	12,163,762	11,447,479	10,851,322	10,196,267	9,471,872
Agricultural sciences	1,989,916	1,953,926	1,904,681	1,809,667	1,657,562	1,558,111	1,511,643	1,457,800
Biological sciences	4,548,873	4,156,063	3,891,027	3,818,144	3,695,911	3,536,448	3,304,074	3,064,069
Medical sciences	7,455,698	6,854,622	6,389,506	6,068,723	5,637,269	5,323,768	4,963,746	4,546,439
Other, n.e.c.	552,558	533,236	502,495	467,228	456,737	432,995	416,804	403,564
Psychology	436,905	389,414	376,415	366,759	355,887	349,709	328,503	283,148
Social sciences	1,121,024	1,100,547	1,089,712	1,013,517	949,914	896,287	815,283	749,878
Economics	260,861	258,748	270,946	249,888	242,642	231,247	221,553	208,810
Political science	177,976	172,857	179,529	172,793	160,376	151,085	142,096	125,056
Sociology	249,286	248,359	229,646	214,256	195,173	183,354	163,287	155,641
Other, n.e.c.	432,901	420,583	409,591	376,580	351,723	330,601	288,347	260,371
Other sciences, n.e.c.	459,580	504,302	417,429	425,265	388,302	368,289	315,137	331,557

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-4. Federally financed R&D expenditures at universities and colleges,
by science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Field	1998	1997	1996	1995	1994	1993	1992	1991
Total	15,076,571	14,419,502	13,802,267	13,297,240	12,618,208	11,956,290	11,092,412	10,234,210
Engineering, total	2,349,263	2,275,084	2,229,901	2,099,556	1,991,453	1,857,974	1,752,636	1,638,143
Aeronautical and astronautical	168,204	183,621	171,146	183,632	165,363	159,839	150,859	137,638
Bioengineering/Bio- medical ¹	56,504	47,517	--	--	--	--	--	--
Chemical	167,610	167,287	173,627	161,010	150,424	142,815	126,225	118,006
Civil	195,125	201,455	197,567	185,740	163,607	154,325	143,623	123,626
Electrical	680,882	635,200	599,259	543,087	489,539	458,418	449,459	435,877
Mechanical	349,632	323,986	334,678	339,413	327,568	310,007	268,870	251,329
Metallurgical and materials	239,416	222,785	189,616	174,759	154,907	150,438	143,259	153,099
Other, n.e.c.	491,890	493,233	564,008	511,915	540,045	482,132	470,341	418,568
All sciences, total	12,727,308	12,144,418	11,572,366	11,197,684	10,626,755	10,098,316	9,339,776	8,596,067
Physical sciences	1,735,241	1,693,355	1,617,965	1,626,119	1,552,531	1,512,719	1,475,602	1,383,331
Astronomy	185,377	184,215	181,899	206,542	180,561	165,031	158,350	136,018
Chemistry	577,459	551,809	548,465	528,196	512,990	505,257	479,668	451,148
Physics	804,181	811,394	751,146	756,095	722,294	708,167	708,030	679,626
Other, n.e.c.	168,224	145,937	136,455	135,286	136,686	134,264	129,554	116,539
Environmental sciences	1,068,136	1,025,833	1,002,446	958,126	940,730	870,282	791,699	701,015
Atmospheric	209,128	185,403	175,656	163,366	161,040	160,633	140,073	129,384
Earth sciences	305,026	266,939	264,778	270,896	268,833	243,529	238,401	218,130
Oceanography	361,707	371,251	371,083	331,189	322,783	329,612	306,583	263,616
Other, n.e.c.	192,275	202,240	190,929	192,675	188,074	136,508	106,642	89,885
Mathematical sciences	212,462	201,788	206,635	203,371	203,785	203,122	183,262	170,536
Computer sciences	517,823	506,795	500,713	482,677	461,227	423,319	379,798	371,549
Life sciences	8,299,959	7,833,469	7,392,784	7,102,289	6,727,655	6,387,041	5,911,294	5,418,739
Agricultural sciences	532,716	562,309	559,190	531,089	492,821	450,030	417,787	377,305
Biological sciences	2,914,333	2,681,251	2,518,821	2,480,177	2,429,401	2,310,849	2,137,514	1,950,454
Medical sciences	4,546,066	4,286,370	4,023,097	3,826,112	3,536,605	3,369,501	3,113,366	2,848,670
Other, n.e.c.	306,844	303,539	291,676	264,911	268,828	256,661	242,627	242,310
Psychology	297,029	271,411	257,154	247,789	239,774	234,389	214,905	186,284
Social sciences	418,339	405,208	421,236	386,461	357,324	338,321	281,253	252,666
Economics	92,072	89,842	90,620	79,996	76,250	77,304	65,947	59,671
Political science	53,000	52,136	62,263	59,629	49,832	42,828	35,046	28,542
Sociology	118,249	116,735	118,587	104,142	95,990	91,108	81,736	72,045
Other, n.e.c.	155,018	146,495	149,766	142,694	135,252	127,081	98,524	92,408
Other sciences, n.e.c.	178,319	206,559	173,433	190,852	143,729	129,123	101,963	111,947

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-5. Non-Federal R&D expenditures at universities and colleges, by source of funds
and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	10,658,697	9,768,099	9,159,707	8,800,662	8,347,608	7,994,273	7,725,415	7,351,069
Source of funds								
State and local governments	1,927,906	1,882,571	1,795,212	1,676,216	1,543,836	1,558,686	1,490,509	1,473,735
Industry	1,870,043	1,699,868	1,595,972	1,480,684	1,415,028	1,360,357	1,278,952	1,203,887
Institutional funds	4,999,381	4,495,281	4,154,713	4,034,792	3,817,881	3,589,059	3,547,420	3,366,833
All other sources	1,861,367	1,690,379	1,613,810	1,608,970	1,570,863	1,486,171	1,408,534	1,306,614
Field								
Engineering, total	1,704,479	1,555,587	1,469,446	1,408,420	1,357,110	1,297,763	1,309,822	1,268,569
Aeronautical and astronautical	73,096	63,696	61,766	57,403	51,979	52,762	45,725	42,569
Bioengineering/Bio- medical ¹	45,457	29,274	--	--	--	--	--	--
Chemical	157,125	149,097	143,249	135,783	128,038	130,817	134,715	125,997
Civil	296,201	259,832	255,159	243,210	237,477	217,092	195,926	191,469
Electrical	342,407	314,311	286,638	273,824	253,705	239,711	254,198	243,215
Mechanical	216,167	191,354	182,930	179,899	173,509	172,867	181,705	169,523
Metallurgical and materials	180,557	164,926	158,559	154,030	154,233	148,485	150,687	150,522
Other, n.e.c.	393,469	383,097	381,145	364,271	358,169	336,029	346,866	345,274
All sciences, total	8,954,218	8,212,512	7,690,261	7,392,242	6,990,498	6,696,510	6,415,593	6,082,500
Physical sciences	704,318	653,726	617,101	609,834	607,614	617,682	579,561	555,373
Astronomy	113,171	101,453	93,353	96,556	86,175	93,489	79,702	75,117
Chemistry	285,843	260,987	244,507	234,861	238,827	235,060	224,911	219,595
Physics	248,733	233,176	223,867	222,953	226,609	232,328	213,150	201,663
Other, n.e.c.	56,571	58,110	55,374	55,464	56,003	56,805	61,798	58,998
Environmental sciences	546,963	496,812	479,471	469,225	450,219	448,609	450,233	417,873
Atmospheric	59,692	51,250	48,444	44,389	41,866	49,770	54,102	45,169
Earth sciences	201,328	176,720	176,105	181,394	182,625	173,062	174,617	166,253
Oceanography	183,041	171,370	161,850	141,663	131,858	128,474	120,893	125,731
Other, n.e.c.	102,902	97,472	93,072	101,779	93,870	97,303	100,621	80,720
Mathematical sciences	95,477	85,549	79,395	73,141	75,913	69,126	64,455	59,615
Computer sciences	236,552	200,962	187,636	198,130	183,652	184,360	175,569	182,820
Life sciences	6,247,086	5,664,378	5,294,925	5,061,473	4,719,824	4,464,281	4,284,973	4,053,133
Agricultural sciences	1,457,200	1,391,617	1,345,491	1,278,578	1,164,741	1,108,081	1,093,856	1,080,495
Biological sciences	1,634,540	1,474,812	1,372,206	1,337,967	1,266,510	1,225,599	1,166,560	1,113,615
Medical sciences	2,909,632	2,568,252	2,366,409	2,242,611	2,100,664	1,954,267	1,850,380	1,697,769
Other, n.e.c.	245,714	229,697	210,819	202,317	187,909	176,334	174,177	161,254
Psychology	139,876	118,003	119,261	118,970	116,113	115,320	113,598	96,864
Social sciences	702,685	695,339	668,476	627,056	592,590	557,966	534,030	497,212
Economics	168,789	168,906	180,326	169,892	166,392	153,943	155,606	149,139
Political science	124,976	120,721	117,266	113,164	110,544	108,257	107,050	96,514
Sociology	131,037	131,624	111,059	110,114	99,183	92,246	81,551	83,596
Other, n.e.c.	277,883	274,088	259,825	233,886	216,471	203,520	189,823	167,963
Other sciences, n.e.c.	281,261	297,743	243,996	234,413	244,573	239,166	213,174	219,610

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-6. R&D expenditures at doctorate-granting institutions, by source of funds
and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	25,341,760	23,805,119	22,618,578	21,767,928	20,652,659	19,598,241	18,542,960	17,349,098
Source of funds								
Federal Government	14,810,416	14,158,634	13,573,581	13,081,021	12,416,711	11,736,432	10,918,139	10,083,361
State and local governments	1,893,995	1,849,387	1,764,581	1,643,014	1,511,477	1,524,448	1,463,872	1,451,337
Industry	1,848,571	1,674,531	1,570,767	1,455,917	1,392,619	1,331,740	1,255,574	1,185,855
Institutional funds	4,963,671	4,454,191	4,114,835	3,995,257	3,778,827	3,539,315	3,512,839	3,336,110
All other sources	1,825,107	1,668,376	1,594,814	1,592,719	1,553,025	1,466,306	1,392,536	1,292,435
Field								
Engineering, total	3,977,316	3,753,110	3,630,148	3,443,283	3,289,943	3,096,325	3,014,270	2,870,503
Aeronautical and astronautical	237,200	242,667	228,149	235,371	211,055	207,046	192,724	176,708
Bioengineering/Bio- medical ¹	101,659	76,463	--	--	--	--	--	--
Chemical	320,764	312,031	314,400	294,651	276,798	271,653	259,213	242,476
Civil	478,912	447,852	439,808	415,735	390,037	360,338	332,643	308,564
Electrical	1,007,954	932,922	867,857	802,518	729,977	684,804	693,440	672,141
Mechanical	539,330	491,676	502,317	505,225	490,644	470,057	438,401	412,378
Metallurgical and materials	418,889	387,081	347,536	328,258	308,564	297,546	292,721	302,912
Other, n.e.c.	872,608	862,418	930,081	861,525	882,868	804,881	805,128	755,324
All sciences, total	21,364,444	20,052,009	18,988,430	18,324,645	17,362,716	16,501,916	15,528,690	14,478,595
Physical sciences	2,375,333	2,288,053	2,179,031	2,184,137	2,108,456	2,067,217	2,003,433	1,893,559
Astronomy	296,922	284,666	274,306	301,679	265,887	257,295	236,964	210,131
Chemistry	825,933	779,731	761,538	735,319	723,910	706,793	676,007	645,164
Physics	1,029,005	1,021,046	952,753	957,931	927,587	914,459	900,293	864,105
Other, n.e.c.	223,473	202,610	190,434	189,208	191,072	188,670	190,169	174,159
Environmental sciences	1,575,448	1,482,626	1,441,033	1,388,494	1,351,531	1,274,805	1,214,294	1,095,565
Atmospheric	265,353	234,180	221,271	204,722	199,563	206,215	191,081	170,864
Earth sciences	491,092	431,005	428,481	441,722	440,591	403,213	404,038	377,164
Oceanography	527,797	524,983	516,230	455,537	437,789	441,229	420,546	383,763
Other, n.e.c.	291,206	292,458	275,051	286,513	273,588	224,148	198,629	163,774
Mathematical sciences	297,215	275,837	274,788	265,614	270,590	258,741	238,837	222,608
Computer sciences	735,774	689,057	673,534	669,315	633,979	596,655	544,137	544,901
Life sciences	14,411,611	13,373,748	12,583,833	12,062,758	11,348,954	10,744,130	10,107,674	9,391,872
Agricultural sciences	1,929,156	1,900,760	1,862,017	1,765,891	1,616,480	1,517,770	1,474,733	1,423,935
Biological sciences	4,493,382	4,099,884	3,841,531	3,771,312	3,648,660	3,482,917	3,261,668	3,026,687
Medical sciences	7,441,378	6,843,708	6,382,103	6,062,931	5,631,712	5,315,996	4,958,402	4,541,298
Other, n.e.c.	547,695	529,396	498,182	462,624	452,102	427,447	412,871	399,952
Psychology	426,566	377,657	364,089	352,363	342,659	333,604	316,965	273,341
Social sciences	1,096,247	1,070,869	1,065,912	990,419	929,356	872,012	795,201	731,819
Economics	258,154	254,948	267,437	244,768	237,796	225,921	216,270	204,079
Political science	175,458	170,029	176,876	170,655	158,336	148,671	140,863	123,933
Sociology	240,778	241,113	221,656	207,536	189,565	177,010	158,101	150,101
Other, n.e.c.	421,857	404,779	399,943	367,460	343,659	320,410	279,967	253,706
Other sciences, n.e.c.	446,250	494,162	406,210	411,545	377,191	354,752	308,149	324,930

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-7. Federally financed R&D expenditures at doctorate-granting institutions,
by science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Field	1998	1997	1996	1995	1994	1993	1992	1991
Total	14,810,416	14,158,634	13,573,581	13,081,021	12,416,711	11,736,432	10,918,139	10,083,361
Engineering, total	2,296,811	2,221,887	2,183,637	2,059,111	1,956,484	1,825,013	1,727,752	1,617,834
Aeronautical and astronautical	164,548	179,518	166,826	178,286	159,423	154,558	147,157	134,309
Bioengineering/Bio- medical ¹	56,238	47,189	--	--	--	--	--	--
Chemical	164,420	163,695	171,809	159,583	149,345	141,679	125,279	117,181
Civil	188,071	194,464	190,902	179,926	159,281	150,069	141,208	121,182
Electrical	668,890	621,925	584,784	531,707	479,550	449,650	443,089	431,901
Mechanical	331,023	305,989	324,043	330,013	321,065	302,636	261,764	245,722
Metallurgical and materials	238,558	222,479	189,281	174,545	154,685	149,589	142,530	152,626
Other, n.e.c.	485,063	486,628	555,992	505,051	533,135	476,832	466,725	414,913
All sciences, total	12,513,605	11,936,747	11,389,944	11,021,910	10,460,227	9,911,419	9,190,387	8,465,527
Physical sciences	1,688,663	1,652,909	1,579,113	1,589,502	1,518,457	1,470,588	1,439,170	1,351,670
Astronomy	184,347	183,645	181,459	205,633	180,079	164,222	157,650	135,366
Chemistry	550,483	529,000	526,314	508,306	494,431	482,271	458,866	433,094
Physics	786,480	795,017	735,716	741,341	708,428	691,064	693,891	667,492
Other, n.e.c.	167,353	145,247	135,624	134,222	135,519	133,031	128,763	115,718
Environmental sciences	1,047,672	1,004,688	980,547	936,926	918,686	845,070	776,870	687,736
Atmospheric	206,210	183,493	173,357	161,006	158,652	157,249	137,641	126,544
Earth sciences	298,141	260,520	258,994	266,097	263,645	236,946	234,186	214,671
Oceanography	353,195	362,233	362,001	321,535	313,331	319,684	302,768	260,167
Other, n.e.c.	190,126	198,442	186,195	188,288	183,058	131,191	102,275	86,354
Mathematical sciences	205,605	194,587	199,205	196,057	197,136	194,761	177,791	165,851
Computer sciences	505,020	492,262	490,815	475,465	453,633	416,013	372,040	365,033
Life sciences	8,201,681	7,739,209	7,315,970	7,028,910	6,657,190	6,312,069	5,847,244	5,363,028
Agricultural sciences	488,685	518,277	523,956	495,420	458,185	419,866	388,500	351,305
Biological sciences	2,872,614	2,641,628	2,485,113	2,448,955	2,400,933	2,275,466	2,108,486	1,926,132
Medical sciences	4,536,763	4,278,081	4,017,979	3,822,498	3,532,725	3,364,586	3,109,857	2,845,620
Other, n.e.c.	303,619	301,223	288,922	262,037	265,347	252,151	240,401	239,971
Psychology	289,091	262,063	247,247	236,079	229,109	221,936	206,172	178,658
Social sciences	404,907	389,641	409,649	375,017	347,341	328,313	272,610	244,367
Economics	90,297	87,605	88,638	76,513	72,987	73,760	62,608	56,784
Political science	52,053	51,407	61,471	59,182	49,298	42,322	34,520	28,050
Sociology	113,296	112,751	114,039	100,617	93,174	87,903	78,751	68,839
Other, n.e.c.	149,261	137,878	145,501	138,705	131,882	124,328	96,731	90,694
Other sciences, n.e.c.	170,966	201,388	167,398	183,954	138,675	122,669	98,490	109,184

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-8. Non-Federal R&D expenditures at doctorate-granting institutions, by source of funds and science and engineering field: fiscal years 1991-1998

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	10,531,344	9,646,485	9,044,997	8,686,907	8,235,948	7,861,809	7,624,821	7,265,737
Source of funds								
State and local governments	1,893,995	1,849,387	1,764,581	1,643,014	1,511,477	1,524,448	1,463,872	1,451,337
Industry	1,848,571	1,674,531	1,570,767	1,455,917	1,392,619	1,331,740	1,255,574	1,185,855
Institutional funds	4,963,671	4,454,191	4,114,835	3,995,257	3,778,827	3,539,315	3,512,839	3,336,110
All other sources	1,825,107	1,668,376	1,594,814	1,592,719	1,553,025	1,466,306	1,392,536	1,292,435
Field								
Engineering, total	1,680,505	1,531,223	1,446,511	1,384,172	1,333,459	1,271,312	1,286,518	1,252,669
Aeronautical and astronautical	72,652	63,149	61,323	57,085	51,632	52,488	45,567	42,399
Bioengineering/Bio- medical ¹	45,421	29,274	--	--	--	--	--	--
Chemical	156,344	148,336	142,591	135,068	127,453	129,974	133,934	125,295
Civil	290,841	253,388	248,906	235,809	230,756	210,269	191,435	187,382
Electrical	339,064	310,997	283,073	270,811	250,427	235,154	250,351	240,240
Mechanical	208,307	185,687	178,274	175,212	169,579	167,421	176,637	166,656
Metallurgical and materials	180,331	164,602	158,255	153,713	153,879	147,957	150,191	150,286
Other, n.e.c.	387,545	375,790	374,089	356,474	349,733	328,049	338,403	340,411
All sciences, total	8,850,839	8,115,262	7,598,486	7,302,735	6,902,489	6,590,497	6,338,303	6,013,068
Physical sciences	686,670	635,144	599,918	594,635	589,999	596,629	564,263	541,889
Astronomy	112,575	101,021	92,847	96,046	85,808	93,073	79,314	74,765
Chemistry	275,450	250,731	235,224	227,013	229,479	224,522	217,141	212,070
Physics	242,525	226,029	217,037	216,590	219,159	223,395	206,402	196,613
Other, n.e.c.	56,120	57,363	54,810	54,986	55,553	55,639	61,406	58,441
Environmental sciences	527,776	477,938	460,486	451,568	432,845	429,735	437,424	407,829
Atmospheric	59,143	50,687	47,914	43,716	40,911	48,966	53,440	44,320
Earth sciences	192,951	170,485	169,487	175,625	176,946	166,267	169,852	162,493
Oceanography	174,602	162,750	154,229	134,002	124,458	121,545	117,778	123,596
Other, n.e.c.	101,080	94,016	88,856	98,225	90,530	92,957	96,354	77,420
Mathematical sciences	91,610	81,250	75,583	69,557	73,454	63,980	61,046	56,757
Computer sciences	230,754	196,795	182,719	193,850	180,346	180,642	172,097	179,868
Life sciences	6,209,930	5,634,539	5,267,863	5,033,848	4,691,764	4,432,061	4,260,430	4,028,844
Agricultural sciences	1,440,471	1,382,483	1,338,061	1,270,471	1,158,295	1,097,904	1,086,233	1,072,630
Biological sciences	1,620,768	1,458,256	1,356,418	1,322,357	1,247,727	1,207,451	1,153,182	1,100,555
Medical sciences	2,904,615	2,565,627	2,364,124	2,240,433	2,098,987	1,951,410	1,848,545	1,695,678
Other, n.e.c.	244,076	228,173	209,260	200,587	186,755	175,296	172,470	159,981
Psychology	137,475	115,594	116,842	116,284	113,550	111,668	110,793	94,683
Social sciences	691,340	681,228	656,263	615,402	582,015	543,699	522,591	487,452
Economics	167,857	167,343	178,799	168,255	164,809	152,161	153,662	147,295
Political science	123,405	118,622	115,405	111,473	109,038	106,349	106,343	95,883
Sociology	127,482	128,362	107,617	106,919	96,391	89,107	79,350	81,262
Other, n.e.c.	272,596	266,901	254,442	228,755	211,777	196,082	183,236	163,012
Other sciences, n.e.c.	275,284	292,774	238,812	227,591	238,516	232,083	209,659	215,746

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-9. R&D expenditures at public universities and colleges, by source of funds
and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	17,391,022	16,270,988	15,530,283	14,903,153	14,074,422	13,375,876	12,548,018	11,739,654
Source of funds								
Federal Government	9,016,467	8,690,889	8,442,045	8,079,138	7,617,334	7,171,445	6,600,113	6,052,723
State and local governments	1,757,863	1,715,695	1,634,634	1,499,879	1,395,075	1,416,208	1,352,653	1,331,247
Industry	1,267,036	1,143,875	1,071,477	998,765	942,664	894,508	842,888	788,560
Institutional funds	4,218,736	3,691,801	3,408,352	3,379,478	3,185,638	2,981,649	2,907,778	2,784,871
All other sources	1,130,920	1,028,728	973,775	945,893	933,711	912,066	844,586	782,253
Field								
Engineering, total	2,854,912	2,681,897	2,583,144	2,436,541	2,283,100	2,112,631	2,034,738	1,959,483
Aeronautical and astronautical	146,618	154,862	138,646	143,336	124,141	125,689	119,798	108,820
Bioengineering/Bio- medical ¹	62,106	52,227	--	--	--	--	--	--
Chemical	243,241	237,095	226,813	205,703	190,380	185,635	173,131	154,372
Civil	422,600	389,215	379,989	359,871	332,781	304,291	274,138	256,972
Electrical	696,879	635,207	584,353	539,011	465,596	418,862	425,081	417,620
Mechanical	366,954	330,726	348,548	345,420	304,151	293,262	276,392	264,303
Metallurgical and materials	310,742	288,682	258,754	252,318	238,000	220,548	210,856	228,370
Other, n.e.c.	605,772	593,883	646,041	590,882	628,051	564,344	555,342	529,026
All sciences, total	14,536,110	13,589,091	12,947,139	12,466,612	11,791,322	11,263,245	10,513,280	9,780,171
Physical sciences	1,550,035	1,486,972	1,431,552	1,454,174	1,403,336	1,379,599	1,289,425	1,219,091
Astronomy	202,857	186,342	186,511	213,269	184,878	174,596	154,264	142,843
Chemistry	576,929	554,013	536,807	517,127	509,265	499,137	466,477	442,077
Physics	625,969	618,219	583,374	588,673	570,739	572,420	560,007	527,442
Other, n.e.c.	144,280	128,398	124,860	135,105	138,454	133,446	108,677	106,729
Environmental sciences	1,275,232	1,215,943	1,187,097	1,129,554	1,094,900	1,032,799	965,741	850,215
Atmospheric	227,892	204,328	192,611	175,696	164,650	175,403	161,279	143,963
Earth sciences	374,026	329,063	326,475	339,463	341,098	314,765	309,419	283,792
Oceanography	489,300	493,293	483,259	422,705	401,093	373,065	345,025	307,666
Other, n.e.c.	184,014	189,259	184,752	191,690	188,059	169,566	150,018	114,794
Mathematical sciences	195,288	177,510	173,415	167,375	166,596	157,721	145,439	135,185
Computer sciences	407,567	348,829	335,339	339,726	324,210	294,240	283,853	293,018
Life sciences	9,604,887	8,901,317	8,414,115	8,054,947	7,575,347	7,229,643	6,769,818	6,270,925
Agricultural sciences	1,924,889	1,893,475	1,852,672	1,754,506	1,603,338	1,510,657	1,466,305	1,407,425
Biological sciences	2,863,262	2,604,767	2,447,521	2,401,630	2,332,377	2,238,988	2,068,593	1,940,291
Medical sciences	4,485,091	4,085,522	3,815,376	3,638,389	3,383,599	3,229,262	2,981,339	2,666,491
Other, n.e.c.	331,645	317,553	298,546	260,422	256,033	250,736	253,581	256,718
Psychology	326,127	292,239	275,882	265,409	252,218	242,902	226,748	195,693
Social sciences	863,368	830,226	834,076	759,274	703,112	663,755	595,492	565,751
Economics	208,134	205,060	225,355	207,181	197,963	187,140	174,564	160,829
Political science	112,039	108,380	113,148	108,006	96,587	87,963	80,652	80,369
Sociology	191,444	188,208	175,187	165,262	144,235	134,868	116,480	111,817
Other, n.e.c.	351,751	328,578	320,386	278,825	264,327	253,784	223,796	212,736
Other sciences, n.e.c.	313,606	336,055	295,663	296,153	271,603	262,586	236,764	250,293

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-10. Federally financed R&D expenditures at public universities and colleges,
by science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Field	1998	1997	1996	1995	1994	1993	1992	1991
Total	9,016,467	8,690,889	8,442,045	8,079,138	7,617,334	7,171,445	6,600,113	6,052,723
Engineering, total	1,437,541	1,391,901	1,382,511	1,275,181	1,177,623	1,071,745	1,009,643	962,079
Aeronautical and astronautical	94,211	101,135	91,667	98,233	86,527	89,160	85,594	77,422
Bioengineering/Bio- medical ¹	26,356	29,111	--	--	--	--	--	--
Chemical	115,506	115,237	115,492	100,717	94,064	89,204	76,373	67,907
Civil	154,511	156,311	150,924	141,372	119,326	111,641	103,030	90,125
Electrical	421,979	388,231	362,002	321,766	270,416	240,680	243,307	245,133
Mechanical	191,153	180,512	205,143	199,023	171,008	160,935	141,411	134,049
Metallurgical and materials	163,948	148,731	125,417	122,727	109,596	99,688	90,226	106,545
Other, n.e.c.	269,877	272,633	331,866	291,343	326,686	280,437	269,702	240,898
All sciences, total	7,578,926	7,298,988	7,059,534	6,803,957	6,439,711	6,099,700	5,590,470	5,090,644
Physical sciences	982,062	961,978	939,489	960,048	915,289	892,542	841,321	781,756
Astronomy	107,888	99,871	108,037	133,188	113,673	99,237	90,094	82,895
Chemistry	353,592	352,489	348,444	338,211	325,347	319,811	299,604	275,756
Physics	418,497	427,368	401,037	403,364	388,461	390,062	388,847	364,723
Other, n.e.c.	102,085	82,250	81,971	85,285	87,808	83,432	62,776	58,382
Environmental sciences	780,138	767,257	760,589	714,304	689,047	630,137	562,523	477,969
Atmospheric	171,773	155,758	147,449	133,839	125,820	128,317	110,496	102,511
Earth sciences	193,925	170,461	171,670	180,480	180,387	160,455	154,214	135,284
Oceanography	313,337	329,162	330,421	288,711	275,023	252,144	232,559	190,678
Other, n.e.c.	101,103	111,876	111,049	111,274	107,817	89,221	65,254	49,496
Mathematical sciences	115,098	107,735	107,226	106,266	103,930	101,074	92,486	86,205
Computer sciences	235,203	210,486	208,936	207,148	192,958	167,536	160,738	162,324
Life sciences	4,849,375	4,638,529	4,434,055	4,233,989	4,013,149	3,810,689	3,511,245	3,184,926
Agricultural sciences	507,503	535,818	542,107	511,299	473,212	433,354	403,738	364,609
Biological sciences	1,657,010	1,533,291	1,454,693	1,418,417	1,395,526	1,326,781	1,214,612	1,113,370
Medical sciences	2,534,606	2,405,746	2,279,267	2,175,345	2,015,335	1,925,402	1,765,440	1,568,087
Other, n.e.c.	150,256	163,674	157,988	128,928	129,076	125,152	127,455	138,860
Psychology	214,559	198,838	187,046	176,061	165,741	158,308	144,854	124,120
Social sciences	303,240	290,985	305,671	272,573	251,544	243,621	199,700	187,387
Economics	65,660	64,931	72,650	65,366	64,097	66,231	55,718	49,037
Political science	28,380	27,817	31,946	29,587	23,973	22,126	17,970	15,838
Sociology	84,977	84,032	85,943	75,601	66,097	64,237	54,785	47,407
Other, n.e.c.	124,223	114,205	115,132	102,019	97,377	91,027	71,227	75,105
Other sciences, n.e.c.	99,251	123,180	116,522	133,568	108,053	95,793	77,603	85,957

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-11. Non-Federal R&D expenditures at public universities and colleges,
by source of funds and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	8,374,555	7,580,099	7,088,238	6,824,015	6,457,088	6,204,431	5,947,905	5,686,931
Source of funds								
State and local governments	1,757,863	1,715,695	1,634,634	1,499,879	1,395,075	1,416,208	1,352,653	1,331,247
Industry	1,267,036	1,143,875	1,071,477	998,765	942,664	894,508	842,888	788,560
Institutional funds	4,218,736	3,691,801	3,408,352	3,379,478	3,185,638	2,981,649	2,907,778	2,784,871
All other sources	1,130,920	1,028,728	973,775	945,893	933,711	912,066	844,586	782,253
Field								
Engineering, total	1,417,371	1,289,996	1,200,633	1,161,360	1,105,477	1,040,886	1,025,095	997,404
Aeronautical and astronautical	52,407	53,727	46,979	45,103	37,614	36,529	34,204	31,398
Bioengineering/Bio- medical ¹	35,750	23,116	--	--	--	--	--	--
Chemical	127,735	121,858	111,321	104,986	96,316	96,431	96,758	86,465
Civil	268,089	232,904	229,065	218,499	213,455	192,650	171,108	166,847
Electrical	274,900	246,976	222,351	217,245	195,180	178,182	181,774	172,487
Mechanical	175,801	150,214	143,405	146,397	133,143	132,327	134,981	130,254
Metallurgical and materials	146,794	139,951	133,337	129,591	128,404	120,860	120,630	121,825
Other, n.e.c.	335,895	321,250	314,175	299,539	301,365	283,907	285,640	288,128
All sciences, total	6,957,184	6,290,103	5,887,605	5,662,655	5,351,611	5,163,545	4,922,810	4,689,527
Physical sciences	567,973	524,994	492,063	494,126	488,047	487,057	448,104	437,335
Astronomy	94,969	86,471	78,474	80,081	71,205	75,359	64,170	59,948
Chemistry	223,337	201,524	188,363	178,916	183,918	179,326	166,873	166,321
Physics	207,472	190,851	182,337	185,309	182,278	182,358	171,160	162,719
Other, n.e.c.	42,195	46,148	42,889	49,820	50,646	50,014	45,901	48,347
Environmental sciences	495,094	448,686	426,508	415,250	405,853	402,662	403,218	372,246
Atmospheric	56,119	48,570	45,162	41,857	38,830	47,086	50,783	41,452
Earth sciences	180,101	158,602	154,805	158,983	160,711	154,310	155,205	148,508
Oceanography	175,963	164,131	152,838	133,994	126,070	120,921	112,466	116,988
Other, n.e.c.	82,911	77,383	73,703	80,416	80,242	80,345	84,764	65,298
Mathematical sciences	80,190	69,775	66,189	61,109	62,666	56,647	52,953	48,980
Computer sciences	172,364	138,343	126,403	132,578	131,252	126,704	123,115	130,694
Life sciences	4,755,512	4,262,788	3,980,060	3,820,958	3,562,198	3,418,954	3,258,573	3,085,999
Agricultural sciences	1,417,386	1,357,657	1,310,565	1,243,207	1,130,126	1,077,303	1,062,567	1,042,816
Biological sciences	1,206,252	1,071,476	992,828	983,213	936,851	912,207	853,981	826,921
Medical sciences	1,950,485	1,679,776	1,536,109	1,463,044	1,368,264	1,303,860	1,215,899	1,098,404
Other, n.e.c.	181,389	153,879	140,558	131,494	126,957	125,584	126,126	117,858
Psychology	111,568	93,401	88,836	89,348	86,477	84,594	81,894	71,573
Social sciences	560,128	539,241	528,405	486,701	451,568	420,134	395,792	378,364
Economics	142,474	140,129	152,705	141,815	133,866	120,909	118,846	111,792
Political science	83,659	80,563	81,202	78,419	72,614	65,837	62,682	64,531
Sociology	106,467	104,176	89,244	89,661	78,138	70,631	61,695	64,410
Other, n.e.c.	227,528	214,373	205,254	176,806	166,950	162,757	152,569	137,631
Other sciences, n.e.c.	214,355	212,875	179,141	162,585	163,550	166,793	159,161	164,336

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-12. R&D expenditures at private universities and colleges, by source of funds
and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	8,344,246	7,916,613	7,431,691	7,194,749	6,891,394	6,574,687	6,269,809	5,845,625
Source of funds								
Federal Government	6,060,104	5,728,613	5,360,222	5,218,102	5,000,874	4,784,845	4,492,299	4,181,487
State and local governments	170,043	166,876	160,578	176,337	148,761	142,478	137,856	142,488
Industry	603,007	555,993	524,495	481,919	472,364	465,849	436,064	415,327
Institutional funds	780,645	803,480	746,361	655,314	632,243	607,410	639,642	581,962
All other sources	730,447	661,651	640,035	663,077	637,152	574,105	563,948	524,361
Field								
Engineering, total	1,198,830	1,148,774	1,116,203	1,071,435	1,065,463	1,043,106	1,027,720	947,229
Aeronautical and astronomical	94,682	92,455	94,266	97,699	93,201	86,912	76,786	71,387
Bioengineering/Bio-medical ¹	39,855	24,564	--	--	--	--	--	--
Chemical	81,494	79,289	90,063	91,090	88,082	87,997	87,809	89,631
Civil	68,726	72,072	72,737	69,079	68,303	67,126	65,411	58,123
Electrical	326,410	314,304	301,544	277,900	277,648	279,267	278,576	261,472
Mechanical	198,845	184,614	169,060	173,892	196,926	189,612	174,183	156,549
Metallurgical and materials	109,231	99,029	89,421	76,471	71,140	78,375	83,090	75,251
Other, n.e.c.	279,587	282,447	299,112	285,304	270,163	253,817	261,865	234,816
All sciences, total	7,145,416	6,767,839	6,315,488	6,123,314	5,825,931	5,531,581	5,242,089	4,898,396
Physical sciences	889,524	860,109	803,514	781,779	756,809	750,802	765,738	719,613
Astronomy	95,691	99,326	88,741	89,829	81,858	83,924	83,788	68,292
Chemistry	286,373	258,783	256,165	245,930	242,552	241,180	238,102	228,666
Physics	426,945	426,351	391,639	390,375	378,164	368,075	361,173	353,847
Other, n.e.c.	80,515	75,649	66,969	55,645	54,235	57,623	82,675	68,808
Environmental sciences	339,867	306,702	294,820	297,797	296,049	286,092	276,191	268,673
Atmospheric	40,928	32,325	31,489	32,059	38,256	35,000	32,896	30,590
Earth sciences	132,328	114,596	114,408	112,827	110,360	101,826	103,599	100,591
Oceanography	55,448	49,328	49,674	50,147	53,548	85,021	82,451	81,681
Other, n.e.c.	111,163	110,453	99,249	102,764	93,885	64,245	57,245	55,811
Mathematical sciences	112,651	109,827	112,615	109,137	113,102	114,527	102,278	94,966
Computer sciences	346,808	358,928	353,010	341,081	320,669	313,439	271,514	261,351
Life sciences	4,942,158	4,596,530	4,273,594	4,108,815	3,872,132	3,621,679	3,426,449	3,200,947
Agricultural sciences	65,027	60,451	52,009	55,161	54,224	47,454	45,338	50,375
Biological sciences	1,685,611	1,551,296	1,443,506	1,416,514	1,363,534	1,297,460	1,235,481	1,123,778
Medical sciences	2,970,607	2,769,100	2,574,130	2,430,334	2,253,670	2,094,506	1,982,407	1,879,948
Other, n.e.c.	220,913	215,683	203,949	206,806	200,704	182,259	163,223	146,846
Psychology	110,778	97,175	100,533	101,350	103,669	106,807	101,755	87,455
Social sciences	257,656	270,321	255,636	254,243	246,802	232,532	219,791	184,127
Economics	52,727	53,688	45,591	42,707	44,679	44,107	46,989	47,981
Political science	65,937	64,477	66,381	64,787	63,789	63,122	61,444	44,687
Sociology	57,842	60,151	54,459	48,994	50,938	48,486	46,807	43,824
Other, n.e.c.	81,150	92,005	89,205	97,755	87,396	76,817	64,551	47,635
Other sciences, n.e.c.	145,974	168,247	121,766	129,112	116,699	105,703	78,373	81,264

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-13. Federally financed R&D expenditures at private universities and colleges,
by science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Field	1998	1997	1996	1995	1994	1993	1992	1991
Total	6,060,104	5,728,613	5,360,222	5,218,102	5,000,874	4,784,845	4,492,299	4,181,487
Engineering, total	911,722	883,183	847,390	824,375	813,830	786,229	742,993	676,064
Aeronautical and astronautical	73,993	82,486	79,479	85,399	78,836	70,679	65,265	60,216
Bioengineering/Bio- medical ¹	30,148	18,406	--	--	--	--	--	--
Chemical	52,104	52,050	58,135	60,293	56,360	53,611	49,852	50,099
Civil	40,614	45,144	46,643	44,368	44,281	42,684	40,593	33,501
Electrical	258,903	246,969	237,257	221,321	219,123	217,738	206,152	190,744
Mechanical	158,479	143,474	129,535	140,390	156,560	149,072	127,459	117,280
Metallurgical and materials	75,468	74,054	64,199	52,032	45,311	50,750	53,033	46,554
Other, n.e.c.	222,013	220,600	232,142	220,572	213,359	201,695	200,639	177,670
All sciences, total	5,148,382	4,845,430	4,512,832	4,393,727	4,187,044	3,998,616	3,749,306	3,505,423
Physical sciences	753,179	731,377	678,476	666,071	637,242	620,177	634,281	601,575
Astronomy	77,489	84,344	73,862	73,354	66,888	65,794	68,256	53,123
Chemistry	223,867	199,320	200,021	189,985	187,643	185,446	180,064	175,392
Physics	385,684	384,026	350,109	352,731	333,833	318,105	319,183	314,903
Other, n.e.c.	66,139	63,687	54,484	50,001	48,878	50,832	66,778	58,157
Environmental sciences	287,998	258,576	241,857	243,822	251,683	240,145	229,176	223,046
Atmospheric	37,355	29,645	28,207	29,527	35,220	32,316	29,577	26,873
Earth sciences	111,101	96,478	93,108	90,416	88,446	83,074	84,187	82,846
Oceanography	48,370	42,089	40,662	42,478	47,760	77,468	74,024	72,938
Other, n.e.c.	91,172	90,364	79,880	81,401	80,257	47,287	41,388	40,389
Mathematical sciences	97,364	94,053	99,409	97,105	99,855	102,048	90,776	84,331
Computer sciences	282,620	296,309	291,777	275,529	268,269	255,783	219,060	209,225
Life sciences	3,450,584	3,194,940	2,958,729	2,868,300	2,714,506	2,576,352	2,400,049	2,233,813
Agricultural sciences	25,213	26,491	17,083	19,790	19,609	16,676	14,049	12,696
Biological sciences	1,257,323	1,147,960	1,064,128	1,061,760	1,033,875	984,068	922,902	837,084
Medical sciences	2,011,460	1,880,624	1,743,830	1,650,767	1,521,270	1,444,099	1,347,926	1,280,583
Other, n.e.c.	156,588	139,865	133,688	135,983	139,752	131,509	115,172	103,450
Psychology	82,470	72,573	70,108	71,728	74,033	76,081	70,051	62,164
Social sciences	115,099	114,223	115,565	113,888	105,780	94,700	81,553	65,279
Economics	26,412	24,911	17,970	14,630	12,153	11,073	10,229	10,634
Political science	24,620	24,319	30,317	30,042	25,859	20,702	17,076	12,704
Sociology	33,272	32,703	32,644	28,541	29,893	26,871	26,951	24,638
Other, n.e.c.	30,795	32,290	34,634	40,675	37,875	36,054	27,297	17,303
Other sciences, n.e.c.	79,068	83,379	56,911	57,284	35,676	33,330	24,360	25,990

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-14. Non-Federal R&D expenditures at private universities and colleges,
by source of funds and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	2,284,142	2,188,000	2,071,469	1,976,647	1,890,520	1,789,842	1,777,510	1,664,138
Source of funds								
State and local governments	170,043	166,876	160,578	176,337	148,761	142,478	137,856	142,488
Industry	603,007	555,993	524,495	481,919	472,364	465,849	436,064	415,327
Institutional funds	780,645	803,480	746,361	655,314	632,243	607,410	639,642	581,962
All other sources	730,447	661,651	640,035	663,077	637,152	574,105	563,948	524,361
Field								
Engineering, total	287,108	265,591	268,813	247,060	251,633	256,877	284,727	271,165
Aeronautical and astronautical	20,689	9,969	14,787	12,300	14,365	16,233	11,521	11,171
Bioengineering/Bio- medical ¹	9,707	6,158	--	--	--	--	--	--
Chemical	29,390	27,239	31,928	30,797	31,722	34,386	37,957	39,532
Civil	28,112	26,928	26,094	24,711	24,022	24,442	24,818	24,622
Electrical	67,507	67,335	64,287	56,579	58,525	61,529	72,424	70,728
Mechanical	40,366	41,140	39,525	33,502	40,366	40,540	46,724	39,269
Metallurgical and materials	33,763	24,975	25,222	24,439	25,829	27,625	30,057	28,697
Other, n.e.c.	57,574	61,847	66,970	64,732	56,804	52,122	61,226	57,146
All sciences, total	1,997,034	1,922,409	1,802,656	1,729,587	1,638,887	1,532,965	1,492,783	1,392,973
Physical sciences	136,345	128,732	125,038	115,708	119,567	130,625	131,457	118,038
Astronomy	18,202	14,982	14,879	16,475	14,970	18,130	15,532	15,169
Chemistry	62,506	59,463	56,144	55,945	54,909	55,734	58,038	53,274
Physics	41,261	42,325	41,530	37,644	44,331	49,970	41,990	38,944
Other, n.e.c.	14,376	11,962	12,485	5,644	5,357	6,791	15,897	10,651
Environmental sciences	51,869	48,126	52,963	53,975	44,366	45,947	47,015	45,627
Atmospheric	3,573	2,680	3,282	2,532	3,036	2,684	3,319	3,717
Earth sciences	21,227	18,118	21,300	22,411	21,914	18,752	19,412	17,745
Oceanography	7,078	7,239	9,012	7,669	5,788	7,553	8,427	8,743
Other, n.e.c.	19,991	20,089	19,369	21,363	13,628	16,958	15,857	15,422
Mathematical sciences	15,287	15,774	13,206	12,032	13,247	12,479	11,502	10,635
Computer sciences	64,188	62,619	61,233	65,552	52,400	57,656	52,454	52,126
Life sciences	1,491,574	1,401,590	1,314,865	1,240,515	1,157,626	1,045,327	1,026,400	967,134
Agricultural sciences	39,814	33,960	34,926	35,371	34,615	30,778	31,289	37,679
Biological sciences	428,288	403,336	379,378	354,754	329,659	313,392	312,579	286,694
Medical sciences	959,147	888,476	830,300	779,567	732,400	650,407	634,481	599,365
Other, n.e.c.	64,325	75,818	70,261	70,823	60,952	50,750	48,051	43,396
Psychology	28,308	24,602	30,425	29,622	29,636	30,726	31,704	25,291
Social sciences	142,557	156,098	140,071	140,355	141,022	137,832	138,238	118,848
Economics	26,315	28,777	27,621	28,077	32,526	33,034	36,760	37,347
Political science	41,317	40,158	36,064	34,745	37,930	42,420	44,368	31,983
Sociology	24,570	27,448	21,815	20,453	21,045	21,615	19,856	19,186
Other, n.e.c.	50,355	59,715	54,571	57,080	49,521	40,763	37,254	30,332
Other sciences, n.e.c.	66,906	84,868	64,855	71,828	81,023	72,373	54,013	55,274

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-15. R&D expenditures at doctorate-granting institutions, by source of funds, science and engineering field, and control: fiscal years 1991, 1997, and 1998

[Dollars in thousands]

Source and field	Total			Public			Private		
	1998	1997	1991	1998	1997	1991	1998	1997	1991
Total	25,341,760	23,805,119	17,349,098	17,103,149	15,981,309	11,554,670	8,238,611	7,823,810	5,794,428
Source of funds									
Federal Government	14,810,416	14,158,634	10,083,361	8,821,413	8,495,915	5,933,813	5,989,003	5,662,719	4,149,548
State and local governments	1,893,995	1,849,387	1,451,337	1,724,687	1,683,875	1,310,015	169,308	165,512	141,322
Industry	1,848,571	1,674,531	1,185,855	1,250,284	1,124,043	776,144	598,287	550,488	409,711
Institutional funds	4,963,671	4,454,191	3,336,110	4,192,193	3,660,544	2,760,869	771,478	793,647	575,241
All other sources	1,825,107	1,668,376	1,292,435	1,114,572	1,016,932	773,829	710,535	651,444	518,606
Field									
Engineering, total	3,977,316	3,753,110	2,870,503	2,795,811	2,621,209	1,929,178	1,181,505	1,131,901	941,325
Aeronautical and astronautical	237,200	242,667	176,708	142,765	150,382	105,362	94,435	92,285	71,346
Bioengineering/Bio-medical ¹	101,659	76,463	--	61,995	52,049	--	39,664	24,414	--
Chemical	320,764	312,031	242,476	240,552	233,985	153,146	80,212	78,046	89,330
Civil	478,912	447,852	308,564	410,459	376,307	251,174	68,453	71,545	57,390
Electrical	1,007,954	932,922	672,141	682,693	619,660	411,756	325,261	313,262	260,385
Mechanical	539,330	491,676	412,378	352,433	317,289	257,733	186,897	174,387	154,645
Metallurgical and materials	418,889	387,081	302,912	309,808	288,194	227,753	109,081	98,887	75,159
Other, n.e.c.	872,608	862,418	755,324	595,106	583,343	522,254	277,502	279,075	233,070
All sciences, total	21,364,444	20,052,009	14,478,595	14,307,338	13,360,100	9,625,492	7,057,106	6,691,909	4,853,103
Physical sciences	2,375,333	2,288,053	1,893,559	1,508,354	1,445,133	1,187,463	866,979	842,920	706,096
Astronomy	296,922	284,666	210,131	202,066	186,028	142,464	94,856	98,638	67,667
Chemistry	825,933	779,731	645,164	554,296	532,362	424,483	271,637	247,369	220,681
Physics	1,029,005	1,021,046	864,105	608,856	599,648	515,019	420,149	421,398	349,086
Other, n.e.c.	223,473	202,610	174,159	143,136	127,095	105,497	80,337	75,515	68,662
Environmental sciences	1,575,448	1,482,626	1,095,565	1,238,468	1,178,154	830,308	336,980	304,472	265,257
Atmospheric	265,353	234,180	170,864	225,770	202,542	142,027	39,583	31,638	28,837
Earth sciences	491,092	431,005	377,164	359,931	317,280	277,729	131,161	113,725	99,435
Oceanography	527,797	524,983	383,763	472,474	475,855	302,144	55,323	49,128	81,619
Other, n.e.c.	291,206	292,458	163,774	180,293	182,477	108,408	110,913	109,981	55,366
Mathematical sciences	297,215	275,837	222,608	187,491	169,048	129,448	109,724	106,789	93,160
Computer sciences	735,774	689,057	544,901	391,197	331,635	285,119	344,577	357,422	259,782
Life sciences	14,411,611	13,373,748	9,391,872	9,514,442	8,816,518	6,207,859	4,897,169	4,557,230	3,184,013
Agricultural sciences	1,929,156	1,900,760	1,423,935	1,881,858	1,854,328	1,375,450	47,298	46,432	48,485
Biological sciences	4,493,382	4,099,884	3,026,687	2,824,881	2,565,619	1,915,359	1,668,501	1,534,265	1,111,328
Medical sciences	7,441,378	6,843,708	4,541,298	4,480,000	4,081,968	2,662,854	2,961,378	2,761,740	1,878,444
Other, n.e.c.	547,695	529,396	399,952	327,703	314,603	254,196	219,992	214,793	145,756
Psychology	426,566	377,657	273,341	318,791	283,094	188,876	107,775	94,563	84,465
Social sciences	1,096,247	1,070,869	731,819	845,852	806,633	550,916	250,395	264,236	180,903
Economics	258,154	254,948	204,079	205,587	201,763	156,551	52,567	53,185	47,528
Political science	175,458	170,029	123,933	110,887	106,500	79,681	64,571	63,529	44,252
Sociology	240,778	241,113	150,101	186,116	183,404	107,952	54,662	57,709	42,149
Other, n.e.c.	421,857	404,779	253,706	343,262	314,966	206,732	78,595	89,813	46,974
Other sciences, n.e.c.	446,250	494,162	324,930	302,743	329,885	245,503	143,507	164,277	79,427

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-16. Federally financed R&D expenditures at doctorate-granting institutions,
by science and engineering field, and control: fiscal years 1991, 1997, and 1998**

[Dollars in thousands]

Field	Total			Public			Private		
	1998	1997	1991	1998	1997	1991	1998	1997	1991
Total	14,810,416	14,158,634	10,083,361	8,821,413	8,495,915	5,933,813	5,989,003	5,662,719	4,149,548
Engineering, total	2,296,811	2,221,887	1,617,834	1,394,982	1,349,151	943,851	901,829	872,736	673,983
Aeronautical and astronautical	164,548	179,518	134,309	90,699	97,154	74,126	73,849	82,364	60,183
Bioengineering/Bio- medical ¹	56,238	47,189	--	26,280	28,933	--	29,958	18,256	--
Chemical	164,420	163,695	117,181	113,307	112,671	67,210	51,113	51,024	49,971
Civil	188,071	194,464	121,182	147,537	149,540	88,094	40,534	44,924	33,088
Electrical	668,890	621,925	431,901	410,597	375,548	241,345	258,293	246,377	190,556
Mechanical	331,023	305,989	245,722	179,549	169,629	129,036	151,474	136,360	116,686
Metallurgical and materials	238,558	222,479	152,626	163,215	148,494	106,072	75,343	73,985	46,554
Other, n.e.c.	485,063	486,628	414,913	263,798	267,182	237,968	221,265	219,446	176,945
All sciences, total	12,513,605	11,936,747	8,465,527	7,426,431	7,146,764	4,989,962	5,087,174	4,789,983	3,475,565
Physical sciences	1,688,663	1,652,909	1,351,670	951,880	932,954	758,089	736,783	719,955	593,581
Astronomy	184,347	183,645	135,366	107,242	99,620	82,670	77,105	84,025	52,696
Chemistry	550,483	529,000	433,094	336,863	336,794	261,799	213,620	192,206	171,295
Physics	786,480	795,017	667,492	406,451	414,893	356,057	380,029	380,124	311,435
Other, n.e.c.	167,353	145,247	115,718	101,324	81,647	57,563	66,029	63,600	58,155
Environmental sciences	1,047,672	1,004,688	687,736	761,873	747,914	467,202	285,799	256,774	220,534
Atmospheric	206,210	183,493	126,544	170,174	154,535	101,423	36,036	28,958	25,121
Earth sciences	298,141	260,520	214,671	187,667	164,631	132,256	110,474	95,889	82,415
Oceanography	353,195	362,233	260,167	304,894	320,284	187,254	48,301	41,949	72,913
Other, n.e.c.	190,126	198,442	86,354	99,138	108,464	46,269	90,988	89,978	40,085
Mathematical sciences	205,605	194,587	165,851	110,112	102,503	82,631	95,493	92,084	83,220
Computer sciences	505,020	492,262	365,033	224,292	197,023	156,739	280,728	295,239	208,294
Life sciences	8,201,681	7,739,209	5,363,028	4,782,185	4,575,832	3,142,070	3,419,496	3,163,377	2,220,958
Agricultural sciences	488,685	518,277	351,305	475,738	504,359	340,438	12,947	13,918	10,867
Biological sciences	2,872,614	2,641,628	1,926,132	1,626,855	1,505,692	1,098,009	1,245,759	1,135,936	828,123
Medical sciences	4,536,763	4,278,081	2,845,620	2,531,850	2,403,587	1,566,271	2,004,913	1,874,494	1,279,349
Other, n.e.c.	303,619	301,223	239,971	147,742	162,194	137,352	155,877	139,029	102,619
Psychology	289,091	262,063	178,658	209,221	191,694	118,702	79,870	70,369	59,956
Social sciences	404,907	389,641	244,367	293,967	278,661	180,766	110,940	110,980	63,601
Economics	90,297	87,605	56,784	63,916	62,901	46,230	26,381	24,704	10,554
Political science	52,053	51,407	28,050	27,700	27,113	15,541	24,353	24,294	12,509
Sociology	113,296	112,751	68,839	82,119	81,402	45,476	31,177	31,349	23,363
Other, n.e.c.	149,261	137,878	90,694	120,232	107,245	73,519	29,029	30,633	17,175
Other sciences, n.e.c.	170,966	201,388	109,184	92,901	120,183	83,763	78,065	81,205	25,421

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-17. Non-Federal R&D expenditures at doctorate-granting institutions, by source of funds, science and engineering field, and control: fiscal years 1991, 1997, and 1998

[Dollars in thousands]

Source and field	Total			Public			Private		
	1998	1997	1991	1998	1997	1991	1998	1997	1991
Total	10,531,344	9,646,485	7,265,737	8,281,736	7,485,394	5,620,857	2,249,608	2,161,091	1,644,880
Source of funds									
State and local governments	1,893,995	1,849,387	1,451,337	1,724,687	1,683,875	1,310,015	169,308	165,512	141,322
Industry	1,848,571	1,674,531	1,185,855	1,250,284	1,124,043	776,144	598,287	550,488	409,711
Institutional funds	4,963,671	4,454,191	3,336,110	4,192,193	3,660,544	2,760,869	771,478	793,647	575,241
All other sources	1,825,107	1,668,376	1,292,435	1,114,572	1,016,932	773,829	710,535	651,444	518,606
Field									
Engineering, total	1,680,505	1,531,223	1,252,669	1,400,829	1,272,058	985,327	279,676	259,165	267,342
Aeronautical and astronautical	72,652	63,149	42,399	52,066	53,228	31,236	20,586	9,921	11,163
Bioengineering/Bio- medical ¹	45,421	29,274	--	35,715	23,116	--	9,706	6,158	--
Chemical	156,344	148,336	125,295	127,245	121,314	85,936	29,099	27,022	39,359
Civil	290,841	253,388	187,382	262,922	226,767	163,080	27,919	26,621	24,302
Electrical	339,064	310,997	240,240	272,096	244,112	170,411	66,968	66,885	69,829
Mechanical	208,307	185,687	166,656	172,884	147,660	128,697	35,423	38,027	37,959
Metallurgical and materials	180,331	164,602	150,286	146,593	139,700	121,681	33,738	24,902	28,605
Other, n.e.c.	387,545	375,790	340,411	331,308	316,161	284,286	56,237	59,629	56,125
All sciences, total	8,850,839	8,115,262	6,013,068	6,880,907	6,213,336	4,635,530	1,969,932	1,901,926	1,377,538
Physical sciences	686,670	635,144	541,889	556,474	512,179	429,374	130,196	122,965	112,515
Astronomy	112,575	101,021	74,765	94,824	86,408	59,794	17,751	14,613	14,971
Chemistry	275,450	250,731	212,070	217,433	195,568	162,684	58,017	55,163	49,386
Physics	242,525	226,029	196,613	202,405	184,755	158,962	40,120	41,274	37,651
Other, n.e.c.	56,120	57,363	58,441	41,812	45,448	47,934	14,308	11,915	10,507
Environmental sciences	527,776	477,938	407,829	476,595	430,240	363,106	51,181	47,698	44,723
Atmospheric	59,143	50,687	44,320	55,596	48,007	40,604	3,547	2,680	3,716
Earth sciences	192,951	170,485	162,493	172,264	152,649	145,473	20,687	17,836	17,020
Oceanography	174,602	162,750	123,596	167,580	155,571	114,890	7,022	7,179	8,706
Other, n.e.c.	101,080	94,016	77,420	81,155	74,013	62,139	19,925	20,003	15,281
Mathematical sciences	91,610	81,250	56,757	77,379	66,545	46,817	14,231	14,705	9,940
Computer sciences	230,754	196,795	179,868	166,905	134,612	128,380	63,849	62,183	51,488
Life sciences	6,209,930	5,634,539	4,028,844	4,732,257	4,240,686	3,065,789	1,477,673	1,393,853	963,055
Agricultural sciences	1,440,471	1,382,483	1,072,630	1,406,120	1,349,969	1,035,012	34,351	32,514	37,618
Biological sciences	1,620,768	1,458,256	1,100,555	1,198,026	1,059,927	817,350	422,742	398,329	283,205
Medical sciences	2,904,615	2,565,627	1,695,678	1,948,150	1,678,381	1,096,583	956,465	887,246	599,095
Other, n.e.c.	244,076	228,173	159,981	179,961	152,409	116,844	64,115	75,764	43,137
Psychology	137,475	115,594	94,683	109,570	91,400	70,174	27,905	24,194	24,509
Social sciences	691,340	681,228	487,452	551,885	527,972	370,150	139,455	153,256	117,302
Economics	167,857	167,343	147,295	141,671	138,862	110,321	26,186	28,481	36,974
Political science	123,405	118,622	95,883	83,187	79,387	64,140	40,218	39,235	31,743
Sociology	127,482	128,362	81,262	103,997	102,002	62,476	23,485	26,360	18,786
Other, n.e.c.	272,596	266,901	163,012	223,030	207,721	133,213	49,566	59,180	29,799
Other sciences, n.e.c.	275,284	292,774	215,746	209,842	209,702	161,740	65,442	83,072	54,006

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-18. R&D expenditures at historically black colleges and universities,
by source of funds and science and engineering field:
fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	292,481	290,369	263,519	241,434	211,439	191,369	178,777	150,763
Source of funds								
Federal Government	247,399	254,329	222,321	199,335	174,561	157,207	146,624	122,682
State and local governments	13,195	11,317	11,797	11,162	9,533	8,577	9,053	6,505
Industry	5,030	5,182	6,448	6,481	6,724	4,796	4,145	3,230
Institutional funds	10,723	13,962	19,697	21,050	17,187	17,716	14,977	14,062
All other sources	16,134	5,579	3,256	3,406	3,434	3,073	3,978	4,284
Field								
Engineering, total	48,164	49,739	42,823	35,433	26,906	21,149	20,733	16,889
Aeronautical and astronautical	2,673	2,514	2,544	2,240	1,553	324	423	170
Bioengineering/Bio- medical ¹	183	164	--	--	--	--	--	--
Chemical	4,660	5,010	2,203	2,070	1,355	1,360	1,114	1,171
Civil	3,963	5,003	4,045	3,408	2,838	2,503	2,475	1,231
Electrical	8,191	8,749	11,106	8,089	6,842	4,360	4,144	4,133
Mechanical	17,899	16,704	10,849	9,548	7,438	6,860	7,142	4,484
Metallurgical and materials	2,518	3,561	2,212	1,614	190	58	245	1,345
Other, n.e.c.	8,077	8,034	9,864	8,464	6,690	5,684	5,190	4,355
All sciences, total	244,317	240,630	220,696	206,001	184,533	170,220	158,044	133,874
Physical sciences	46,257	47,801	40,294	41,401	39,458	32,380	29,205	25,410
Astronomy	4,384	7,269	5,853	4,295	2,614	1,576	367	164
Chemistry	21,002	16,534	15,171	14,797	13,715	13,551	11,896	11,705
Physics	20,418	23,633	19,002	21,297	22,542	16,395	16,534	13,067
Other, n.e.c.	453	365	268	1,012	587	858	408	474
Environmental sciences	14,700	14,214	17,218	15,562	6,087	3,853	3,252	3,844
Atmospheric	1,810	1,129	767	743	732	1,310	667	542
Earth sciences	2,958	1,753	2,509	1,756	507	39	592	127
Oceanography	173	185	299	587	653	245	106	27
Other, n.e.c.	9,759	11,147	13,643	12,476	4,195	2,259	1,887	3,148
Mathematical sciences	5,248	6,358	6,504	5,709	3,589	5,631	4,375	2,420
Computer sciences	14,138	15,646	16,814	8,791	5,020	4,686	4,170	5,373
Life sciences	143,501	138,233	120,817	107,713	114,743	106,870	105,159	88,031
Agricultural sciences	60,086	58,412	48,015	49,035	51,099	46,235	45,225	39,154
Biological sciences	57,754	54,619	50,951	43,458	45,477	41,710	44,126	36,269
Medical sciences	21,009	21,871	18,361	13,110	15,428	16,364	12,981	10,445
Other, n.e.c.	4,652	3,331	3,490	2,110	2,739	2,561	2,827	2,163
Psychology	1,002	1,135	2,019	3,947	3,580	3,326	2,053	1,336
Social sciences	8,021	9,878	9,774	10,333	8,914	9,917	8,528	6,133
Economics	1,156	1,426	1,175	3,196	2,741	3,190	2,847	2,404
Political science	464	987	790	438	549	513	371	166
Sociology	3,033	2,964	4,691	3,593	3,162	2,581	2,469	2,373
Other, n.e.c.	3,368	4,501	3,118	3,106	2,462	3,633	2,841	1,190
Other sciences, n.e.c.	11,450	7,365	7,256	12,545	3,142	3,557	1,302	1,327

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-19. Federally financed R&D expenditures at historically black colleges and universities,
by science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Field	1998	1997	1996	1995	1994	1993	1992	1991
Total	247,399	254,329	222,321	199,335	174,561	157,207	146,624	122,682
Engineering, total	41,139	45,068	37,300	30,955	21,746	15,901	16,034	12,295
Aeronautical and astronautical	2,370	2,433	2,128	2,069	1,420	324	423	170
Bioengineering/Bio- medical ¹	183	159	--	--	--	--	--	--
Chemical	3,668	4,511	1,891	1,803	1,091	1,086	852	791
Civil	3,139	3,781	2,507	2,582	1,941	1,340	1,314	278
Electrical	7,730	8,492	10,302	7,467	5,707	3,781	3,446	3,173
Mechanical	14,657	15,077	9,685	8,566	6,237	5,314	5,467	3,616
Metallurgical and materials	2,370	3,269	1,862	1,526	101	58	245	1,178
Other, n.e.c.	7,022	7,346	8,925	6,942	5,249	3,998	4,287	3,089
All sciences, total	206,260	209,261	185,021	168,380	152,815	141,306	130,590	110,387
Physical sciences	40,746	43,120	35,357	36,143	32,337	27,472	24,491	21,494
Astronomy	4,371	7,246	5,730	4,095	2,518	1,544	367	164
Chemistry	17,969	14,027	13,029	12,880	11,682	12,256	11,043	10,359
Physics	18,194	21,517	16,382	18,263	17,596	13,077	12,685	10,553
Other, n.e.c.	212	330	216	905	541	595	396	418
Environmental sciences	11,926	11,134	12,488	5,517	4,377	2,847	1,972	2,028
Atmospheric	1,766	825	434	348	236	832	212	104
Earth sciences	1,623	721	1,348	1,094	37	32	506	96
Oceanography	79	91	183	286	150	212	74	1
Other, n.e.c.	8,458	9,497	10,523	3,789	3,954	1,771	1,180	1,827
Mathematical sciences	2,530	4,328	4,261	4,291	2,928	3,276	2,816	1,468
Computer sciences	12,284	13,763	13,336	6,951	4,217	4,138	3,533	4,581
Life sciences	123,177	121,905	104,640	94,247	97,711	93,379	90,538	74,910
Agricultural sciences	47,450	50,303	41,803	42,445	44,511	40,019	40,212	34,105
Biological sciences	53,082	49,155	44,427	39,452	39,418	38,201	39,395	32,831
Medical sciences	18,904	20,730	16,119	11,263	12,271	13,603	10,024	6,991
Other, n.e.c.	3,741	1,717	2,291	1,087	1,511	1,556	907	983
Psychology	979	1,025	1,729	3,665	2,930	3,050	1,597	1,263
Social sciences	5,525	7,286	6,660	7,300	6,477	5,527	4,784	4,219
Economics	1,063	1,258	1,014	2,904	2,595	2,833	2,570	2,137
Political science	254	459	467	173	274	107	167	90
Sociology	2,006	2,177	3,587	2,588	2,110	1,627	1,478	1,488
Other, n.e.c.	2,202	3,392	1,592	1,635	1,498	960	569	504
Other sciences, n.e.c.	9,093	6,700	6,550	10,266	1,838	1,617	859	424

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-20. Non-Federal R&D expenditures at historically black colleges and universities,
by source of funds and science and engineering field: fiscal years 1991-1998**

[Dollars in thousands]

Source and field	1998	1997	1996	1995	1994	1993	1992	1991
Total	45,082	36,040	41,198	42,099	36,878	34,162	32,153	28,081
Source of funds								
State and local governments	13,195	11,317	11,797	11,162	9,533	8,577	9,053	6,505
Industry	5,030	5,182	6,448	6,481	6,724	4,796	4,145	3,230
Institutional funds	10,723	13,962	19,697	21,050	17,187	17,716	14,977	14,062
All other sources	16,134	5,579	3,256	3,406	3,434	3,073	3,978	4,284
Field								
Engineering, total	7,025	4,671	5,523	4,478	5,160	5,248	4,699	4,594
Aeronautical and astronautical	303	81	416	171	133	0	0	0
Bioengineering/Bio- medical ¹	0	5	--	--	--	--	--	--
Chemical	992	499	312	267	264	274	262	380
Civil	824	1,222	1,538	826	897	1,163	1,161	953
Electrical	461	257	804	622	1,135	579	698	960
Mechanical	3,242	1,627	1,164	982	1,201	1,546	1,675	868
Metallurgical and materials	148	292	350	88	89	0	0	167
Other, n.e.c.	1,055	688	939	1,522	1,441	1,686	903	1,266
All sciences, total	38,057	31,369	35,675	37,621	31,718	28,914	27,454	23,487
Physical sciences	5,511	4,681	4,937	5,258	7,121	4,908	4,714	3,916
Astronomy	13	23	123	200	96	32	0	0
Chemistry	3,033	2,507	2,142	1,917	2,033	1,295	853	1,346
Physics	2,224	2,116	2,620	3,034	4,946	3,318	3,849	2,514
Other, n.e.c.	241	35	52	107	46	263	12	56
Environmental sciences	2,774	3,080	4,730	10,045	1,710	1,006	1,280	1,816
Atmospheric	44	304	333	395	496	478	455	438
Earth sciences	1,335	1,032	1,161	662	470	7	86	31
Oceanography	94	94	116	301	503	33	32	26
Other, n.e.c.	1,301	1,650	3,120	8,687	241	488	707	1,321
Mathematical sciences	2,718	2,030	2,243	1,418	661	2,355	1,559	952
Computer sciences	1,854	1,883	3,478	1,840	803	548	637	792
Life sciences	20,324	16,328	16,177	13,466	17,032	13,491	14,621	13,121
Agricultural sciences	12,636	8,109	6,212	6,590	6,588	6,216	5,013	5,049
Biological sciences	4,672	5,464	6,524	4,006	6,059	3,509	4,731	3,438
Medical sciences	2,105	1,141	2,242	1,847	3,157	2,761	2,957	3,454
Other, n.e.c.	911	1,614	1,199	1,023	1,228	1,005	1,920	1,180
Psychology	23	110	290	282	650	276	456	73
Social sciences	2,496	2,592	3,114	3,033	2,437	4,390	3,744	1,914
Economics	93	168	161	292	146	357	277	267
Political science	210	528	323	265	275	406	204	76
Sociology	1,027	787	1,104	1,005	1,052	954	991	885
Other, n.e.c.	1,166	1,109	1,526	1,471	964	2,673	2,272	686
Other sciences, n.e.c.	2,357	665	706	2,279	1,304	1,940	443	903

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-21. R&D expenditures at universities and colleges, by geographic division and source: fiscal year 1998

[Dollars in millions]

Division	Total	Federal	Non-Federal
Total	25,735	15,077	10,659
New England	2,069	1,444	625
Middle Atlantic	3,751	2,324	1,427
East North Central	3,693	2,017	1,676
West North Central	1,688	829	859
South Atlantic	4,850	2,885	1,964
East South Central	1,151	650	501
West South Central	2,376	1,179	1,197
Mountain	1,650	985	666
Pacific	4,413	2,715	1,698
Outlying Areas	94	49	45

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-22. R&D expenditures at doctorate-granting institutions, by geographic division,
State, and source of funds: fiscal year 1998**

[Dollars in thousands]

Page 1 of 2

Division and State	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Total	25,341,760	14,810,416	1,893,995	1,848,571	4,963,671	1,825,107
New England	2,045,003	1,430,332	60,096	152,588	229,791	172,196
Connecticut	402,671	261,929	13,157	25,916	66,868	34,801
Maine	33,106	13,028	1,796	7,074	10,810	398
Massachusetts	1,322,092	975,212	31,338	105,802	96,624	113,116
New Hampshire	117,323	70,966	8,300	6,209	17,439	14,409
Rhode Island	111,979	77,737	2,857	2,074	26,130	3,181
Vermont	57,832	31,460	2,648	5,513	11,920	6,291
Middle Atlantic	3,699,480	2,289,904	161,838	276,181	631,937	339,620
New Jersey	484,260	227,706	39,773	27,128	150,482	39,171
New York	1,881,994	1,194,840	78,897	93,392	283,770	231,095
Pennsylvania	1,333,226	867,358	43,168	155,661	197,685	69,354
East North Central	3,659,797	1,998,287	253,144	264,079	867,899	276,388
Illinois	1,026,399	574,050	53,680	58,433	260,448	79,788
Indiana	424,722	213,288	25,517	40,336	126,098	19,483
Michigan	876,375	472,081	56,017	59,053	220,595	68,629
Ohio	805,015	442,078	74,406	87,999	151,197	49,335
Wisconsin	527,286	296,790	43,524	18,258	109,561	59,153
West North Central	1,676,601	824,294	226,590	117,929	392,331	115,457
Iowa	357,927	167,006	52,945	31,058	88,591	18,327
Kansas	211,465	80,214	46,941	12,104	56,206	16,000
Minnesota	360,629	204,899	47,118	24,128	55,541	28,943
Missouri	478,295	274,704	23,506	29,589	108,237	42,259
Nebraska	186,200	62,578	46,602	16,749	55,018	5,253
North Dakota	56,945	23,191	1,123	3,806	26,091	2,734
South Dakota	25,140	11,702	8,355	495	2,647	1,941
South Atlantic	4,758,501	2,812,993	422,494	383,491	895,240	244,283
Delaware	69,896	33,688	4,600	3,859	19,222	8,527
District of Columbia	227,636	161,698	1,593	19,481	25,865	18,999
Florida	705,197	351,088	79,258	51,668	183,378	39,805
Georgia	794,691	363,140	69,604	85,820	246,047	30,080
Maryland	1,318,062	1,003,068	62,375	41,623	142,535	68,461
North Carolina	859,094	486,131	126,392	119,230	92,839	34,502
South Carolina	238,872	107,258	27,069	11,400	82,573	10,572
Virginia	482,520	281,912	48,649	45,863	76,684	29,412
West Virginia	62,533	25,010	2,954	4,547	26,097	3,925
East South Central	1,089,453	605,740	86,601	79,101	249,558	68,453
Alabama	402,610	253,186	7,067	30,279	82,216	29,862
Kentucky	200,682	76,003	14,254	18,468	83,214	8,743
Mississippi	145,717	73,329	29,455	10,399	30,603	1,931
Tennessee	340,444	203,222	35,825	19,955	53,525	27,917
West South Central	2,326,195	1,142,489	322,001	184,416	457,059	220,230
Arkansas	111,173	38,013	32,478	8,185	25,343	7,154
Louisiana	340,741	134,956	77,897	23,216	85,109	19,563
Oklahoma	206,627	81,689	37,406	13,320	59,439	14,773
Texas	1,667,654	887,831	174,220	139,695	287,168	178,740

See explanatory information and SOURCE at end of table.

**Table B-22. R&D expenditures at doctorate-granting institutions, by geographic division,
State, and source of funds: fiscal year 1998**

[Dollars in thousands]

Page 2 of 2

Division and State	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Mountain	1,638,401	975,465	113,028	99,428	377,463	73,017
Arizona	405,999	210,170	11,812	22,125	146,586	15,306
Colorado	483,388	327,481	25,787	26,785	68,065	35,270
Idaho	68,983	23,552	21,635	7,551	15,447	798
Montana	72,425	35,730	13,784	8,437	13,435	1,039
Nevada	83,888	45,496	4,533	5,355	24,314	4,190
New Mexico	226,071	149,911	12,555	12,559	45,780	5,266
Utah	249,147	165,319	17,556	13,502	42,561	10,209
Wyoming	48,500	17,806	5,366	3,114	21,275	939
Pacific	4,361,707	2,686,680	226,117	286,019	849,528	313,363
Alaska	75,606	31,505	3,680	16,081	24,340	0
California	3,301,972	1,984,643	139,914	207,365	699,606	270,444
Hawaii	148,007	86,886	37,002	10,949	13,170	0
Oregon	308,317	202,388	32,905	10,096	37,800	25,128
Washington	527,805	381,258	12,616	41,528	74,612	17,791
Outlying Areas	86,622	44,232	22,086	5,339	12,865	2,100

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-23. R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 1 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Total	25,341,760	23,805,119	22,618,578	21,767,928	20,652,659	19,598,241	18,542,960	17,349,098
New England	2,045,003	1,973,543	1,856,851	1,802,546	1,784,710	1,747,886	1,623,943	1,515,689
Connecticut	402,671	392,668	388,134	377,225	366,948	364,708	339,674	320,935
Maine	33,106	33,144	34,684	31,901	29,393	24,879	23,213	27,082
Massachusetts	1,322,092	1,268,723	1,174,470	1,146,874	1,133,194	1,105,791	1,027,595	953,708
New Hampshire	117,323	107,505	98,638	93,073	101,552	99,475	87,412	78,975
Rhode Island	111,979	111,977	107,266	99,408	101,848	103,194	96,507	88,448
Vermont	57,832	59,526	53,659	54,065	51,775	49,839	49,542	46,541
Middle Atlantic	3,699,480	3,483,910	3,376,019	3,316,019	3,140,506	2,947,905	2,836,392	2,658,976
New Jersey	484,260	462,052	452,917	440,042	406,019	373,816	379,104	352,310
New York	1,881,994	1,780,678	1,733,356	1,736,446	1,656,541	1,555,083	1,489,331	1,427,840
Pennsylvania	1,333,226	1,241,180	1,189,746	1,139,531	1,077,946	1,019,006	967,957	878,826
East North Central	3,659,797	3,433,078	3,239,549	3,076,543	2,947,205	2,797,212	2,632,646	2,452,608
Illinois	1,026,399	929,639	862,321	812,287	793,745	757,508	726,917	697,565
Indiana	424,722	400,243	389,982	375,719	335,227	302,811	282,982	262,508
Michigan	876,375	842,303	807,900	774,005	730,019	699,957	650,400	601,189
Ohio	805,015	763,604	693,786	641,550	621,390	592,744	553,239	503,725
Wisconsin	527,286	497,289	485,560	472,982	466,824	444,192	419,108	387,621
West North Central	1,676,601	1,620,182	1,516,207	1,477,904	1,402,458	1,343,217	1,249,756	1,210,816
Iowa	357,927	341,772	332,402	322,769	315,560	298,745	268,721	259,437
Kansas	211,465	197,586	181,775	181,496	168,880	154,103	139,012	124,174
Minnesota	360,629	363,392	341,468	336,805	318,138	332,298	317,026	331,471
Missouri	478,295	459,405	404,875	397,192	374,610	344,566	321,255	305,780
Nebraska	186,200	177,373	158,398	158,633	147,881	137,134	132,775	125,065
North Dakota	56,945	56,096	71,849	59,617	55,709	54,175	52,731	48,930
South Dakota	25,140	24,558	25,440	21,392	21,680	22,196	18,236	15,959
South Atlantic	4,758,501	4,524,726	4,252,660	4,115,689	3,845,901	3,623,522	3,376,412	3,198,676
Delaware	69,896	65,095	54,154	53,161	50,734	52,627	48,970	44,696
District of Columbia	227,636	214,019	201,445	181,461	151,694	145,218	133,524	118,398
Florida	705,197	682,516	638,102	604,103	521,516	488,551	428,372	438,054
Georgia	794,691	766,346	712,188	669,507	606,212	546,960	514,809	484,019
Maryland	1,318,062	1,272,173	1,236,171	1,200,414	1,166,061	1,148,279	1,112,586	1,066,228
North Carolina	859,094	785,980	725,688	686,609	658,384	604,581	551,349	501,841
South Carolina	238,872	219,000	217,881	220,088	196,822	178,174	163,839	151,204
Virginia	482,520	455,959	411,825	446,947	435,192	404,111	369,706	343,464
West Virginia	62,533	63,638	55,206	53,399	59,286	55,021	53,257	50,772
East South Central	1,089,453	981,151	932,162	883,136	851,267	787,043	728,947	695,133
Alabama	402,610	368,602	342,021	327,403	304,961	281,209	258,537	252,998
Kentucky	200,682	158,238	148,376	134,784	126,026	122,409	109,644	97,989
Mississippi	145,717	124,601	124,675	112,794	114,311	105,739	98,555	100,383
Tennessee	340,444	329,710	317,090	308,155	305,969	277,686	262,211	243,763
West South Central	2,326,195	2,212,335	2,125,024	2,073,588	2,001,652	1,896,588	1,756,935	1,663,744
Arkansas	111,173	102,204	93,107	87,799	80,577	74,011	60,657	55,081
Louisiana	340,741	332,267	307,839	318,534	272,614	255,171	243,614	235,726
Oklahoma	206,627	186,702	201,626	186,371	174,585	172,968	169,427	152,624
Texas	1,667,654	1,591,162	1,522,452	1,480,884	1,473,876	1,394,438	1,283,237	1,220,313

See explanatory information and SOURCE at end of table.

**Table B-23. R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 2 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Mountain	1,638,401	1,531,860	1,465,669	1,459,758	1,324,612	1,231,771	1,192,476	1,085,661
Arizona	405,999	376,818	375,881	380,216	342,792	310,721	299,733	284,128
Colorado	483,388	427,435	406,203	394,065	367,527	331,081	304,943	260,587
Idaho	68,983	63,077	64,930	58,621	55,390	48,774	46,896	41,437
Montana	72,425	70,591	71,518	66,879	53,057	48,080	44,596	38,149
Nevada	83,888	88,331	84,970	86,902	79,121	79,124	71,425	66,742
New Mexico	226,071	219,150	213,691	230,393	191,546	186,750	181,971	170,139
Utah	249,147	238,705	207,923	202,212	196,715	194,685	212,731	201,470
Wyoming	48,500	47,753	40,553	40,470	38,464	32,556	30,181	23,009
Pacific	4,361,707	3,967,887	3,781,718	3,493,109	3,302,941	3,175,249	3,094,301	2,821,385
Alaska	75,606	70,943	71,381	72,216	76,093	66,796	67,881	67,432
California	3,301,972	2,978,575	2,817,913	2,597,919	2,465,183	2,380,979	2,343,653	2,146,736
Hawaii	148,007	120,107	111,202	78,429	70,079	73,961	80,258	78,166
Oregon	308,317	290,603	276,109	258,575	242,822	225,750	203,915	179,384
Washington	527,805	507,659	505,113	485,970	448,764	427,763	398,594	349,667
Outlying Areas	86,622	76,447	72,719	69,636	51,407	47,848	51,152	46,410

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-24. Federally financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

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Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Total	14,810,416	14,158,634	13,573,581	13,081,021	12,416,711	11,736,432	10,918,139	10,083,361
New England	1,430,332	1,353,379	1,249,148	1,232,983	1,197,093	1,172,157	1,095,668	1,030,659
Connecticut	261,929	242,385	233,933	227,915	222,569	220,562	205,900	197,120
Maine	13,028	15,066	16,211	15,789	11,386	8,959	8,975	10,062
Massachusetts	975,212	915,187	827,489	824,835	792,731	771,864	724,271	680,168
New Hampshire	70,966	67,282	62,987	60,131	66,794	67,727	60,382	52,833
Rhode Island	77,737	79,417	77,007	71,381	69,918	71,515	63,383	59,616
Vermont	31,460	34,042	31,521	32,932	33,695	31,530	32,757	30,860
Middle Atlantic	2,289,904	2,176,917	2,123,888	2,072,836	2,004,299	1,902,844	1,770,694	1,625,870
New Jersey	227,706	224,084	215,525	207,257	190,721	166,835	165,377	150,044
New York	1,194,840	1,145,280	1,113,778	1,111,135	1,094,883	1,059,046	989,727	923,587
Pennsylvania	867,358	807,553	794,585	754,444	718,695	676,963	615,590	552,239
East North Central	1,998,287	1,894,160	1,789,591	1,727,971	1,659,544	1,573,127	1,445,419	1,317,195
Illinois	574,050	529,803	492,351	463,631	452,241	424,745	394,505	361,461
Indiana	213,288	209,071	203,390	197,910	181,226	167,743	153,981	143,761
Michigan	472,081	453,664	425,145	420,747	400,670	377,278	339,328	309,592
Ohio	442,078	417,921	390,708	375,061	357,928	348,166	319,868	284,791
Wisconsin	296,790	283,701	277,997	270,622	267,479	255,195	237,737	217,590
West North Central	824,294	804,989	760,384	735,234	695,388	643,289	605,237	567,135
Iowa	167,006	162,060	161,262	163,620	157,643	145,006	133,612	123,858
Kansas	80,214	75,116	68,823	70,026	64,115	59,635	53,150	43,913
Minnesota	204,899	200,297	199,068	194,953	181,166	174,836	165,926	164,887
Missouri	274,704	271,199	232,258	212,750	201,985	190,959	180,743	165,099
Nebraska	62,578	61,231	52,186	55,421	52,971	38,530	39,140	40,891
North Dakota	23,191	24,207	35,659	27,841	27,537	25,223	24,572	21,570
South Dakota	11,702	10,879	11,128	10,623	9,971	9,100	8,094	6,917
South Atlantic	2,812,993	2,646,125	2,600,579	2,526,639	2,389,827	2,225,164	2,052,680	1,918,937
Delaware	33,688	32,031	29,509	27,352	26,250	26,170	21,629	20,053
District of Columbia	161,698	153,846	147,212	132,770	103,677	100,345	94,107	86,793
Florida	351,088	334,150	315,555	317,081	288,429	267,717	230,439	220,683
Georgia	363,140	347,407	335,769	306,745	287,139	273,079	256,701	238,664
Maryland	1,003,068	936,567	924,262	908,933	895,897	848,597	829,940	790,174
North Carolina	486,131	439,124	442,804	431,682	410,886	377,983	332,927	303,921
South Carolina	107,258	102,887	120,015	109,443	90,558	73,020	59,688	54,045
Virginia	281,912	270,490	254,419	262,169	251,829	226,591	198,886	184,125
West Virginia	25,010	29,623	31,034	30,464	35,162	31,662	28,363	20,479
East South Central	605,740	567,698	536,289	504,040	493,885	451,921	411,744	373,576
Alabama	253,186	230,894	213,580	189,847	177,323	161,331	142,520	132,063
Kentucky	76,003	75,649	64,756	59,811	58,080	55,698	47,095	38,386
Mississippi	73,329	62,350	62,497	62,585	61,265	54,715	54,512	52,853
Tennessee	203,222	198,805	195,456	191,797	197,217	180,177	167,617	150,274
West South Central	1,142,489	1,083,499	1,027,036	979,935	920,120	863,683	771,033	714,356
Arkansas	38,013	35,021	32,815	33,348	29,450	25,362	22,063	20,178
Louisiana	134,956	129,285	125,254	136,253	102,697	95,891	89,089	98,860
Oklahoma	81,689	71,421	72,817	59,504	59,053	56,475	46,486	42,806
Texas	887,831	847,772	796,150	750,830	728,920	685,955	613,395	552,512

See explanatory information and SOURCE at end of table.

**Table B-24. Federally financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

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Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Mountain	975,465	899,131	863,163	881,604	776,846	717,796	689,245	631,853
Arizona	210,170	198,097	199,889	210,475	182,009	149,803	143,240	131,627
Colorado	327,481	289,514	269,866	263,802	239,109	222,107	208,315	187,819
Idaho	23,552	18,544	18,535	19,710	18,075	17,026	17,343	15,681
Montana	35,730	31,261	29,258	27,382	24,413	21,399	18,467	13,801
Nevada	45,496	43,934	46,713	47,708	43,614	43,196	35,599	38,221
New Mexico	149,911	144,639	137,607	156,554	118,994	113,060	110,587	94,309
Utah	165,319	158,139	146,304	140,600	135,517	136,630	142,396	137,613
Wyoming	17,806	15,003	14,991	15,373	15,115	14,575	13,298	12,782
Pacific	2,686,680	2,689,688	2,581,293	2,380,426	2,250,169	2,160,711	2,047,316	1,878,405
Alaska	31,505	28,127	30,351	37,285	40,770	41,616	32,066	34,335
California	1,984,643	2,028,296	1,947,922	1,800,500	1,697,546	1,630,280	1,547,315	1,436,983
Hawaii	86,886	72,421	66,902	44,238	39,392	41,362	47,684	44,857
Oregon	202,388	195,030	174,616	158,076	145,737	134,956	124,198	108,849
Washington	381,258	365,814	361,502	340,327	326,724	312,497	296,053	253,381
Outlying Areas	44,232	43,048	42,210	39,353	29,540	25,740	29,103	25,375

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-25. State and local government-financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 1 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Total	1,893,995	1,849,387	1,764,581	1,643,014	1,511,477	1,524,448	1,463,872	1,451,337
New England	60,096	56,363	57,508	42,380	35,528	38,564	34,857	33,795
Connecticut	13,157	13,730	19,938	18,732	12,297	10,067	5,937	5,996
Maine	1,796	1,551	1,594	2,005	2,290	1,711	1,320	2,197
Massachusetts	31,338	29,248	24,972	13,240	12,325	15,462	14,461	13,090
New Hampshire	8,300	7,990	7,308	3,963	2,890	5,846	5,175	4,375
Rhode Island	2,857	1,161	1,172	1,986	3,154	2,812	5,434	5,278
Vermont	2,648	2,683	2,524	2,454	2,572	2,666	2,530	2,859
Middle Atlantic	161,838	159,664	163,893	174,147	145,587	132,160	135,354	145,383
New Jersey	39,773	37,274	42,834	39,535	39,167	36,361	41,882	43,361
New York	78,897	80,705	83,966	99,658	77,425	75,622	71,132	75,490
Pennsylvania	43,168	41,685	37,093	34,954	28,995	20,177	22,340	26,532
East North Central	253,144	239,745	216,306	209,635	194,939	219,459	228,566	232,924
Illinois	53,680	53,968	47,358	47,279	43,863	45,716	52,643	52,573
Indiana	25,517	23,826	23,232	22,463	19,823	20,552	20,271	20,347
Michigan	56,017	50,800	48,539	51,788	41,345	39,541	39,907	42,539
Ohio	74,406	70,078	55,084	45,556	48,287	45,240	49,628	53,079
Wisconsin	43,524	41,073	42,093	42,549	41,621	68,410	66,117	64,386
West North Central	226,590	226,149	215,883	208,350	196,109	194,523	174,224	179,613
Iowa	52,945	52,713	49,905	47,279	47,189	38,218	31,006	34,147
Kansas	46,941	45,002	40,456	39,353	35,147	36,640	30,467	28,967
Minnesota	47,118	50,539	47,842	49,543	45,786	49,861	49,720	53,614
Missouri	23,506	21,342	21,691	21,486	19,270	18,959	17,703	19,061
Nebraska	46,602	47,142	45,388	42,383	39,606	39,627	37,693	35,958
North Dakota	1,123	1,070	1,555	1,534	1,493	1,532	1,085	1,327
South Dakota	8,355	8,341	9,046	6,772	7,618	9,686	6,550	6,539
South Atlantic	422,494	428,635	398,586	343,772	333,485	307,202	297,570	308,740
Delaware	4,600	2,977	2,410	2,144	2,180	3,710	4,702	4,024
District of Columbia	1,593	1,267	1,446	814	1,459	1,038	1,428	463
Florida	79,258	87,761	83,234	41,466	41,240	31,641	31,775	36,736
Georgia	69,604	68,844	61,862	55,663	44,663	39,325	39,835	43,222
Maryland	62,375	82,024	84,330	79,267	88,792	93,252	82,288	81,956
North Carolina	126,392	115,804	102,636	97,647	90,891	74,041	69,901	71,990
South Carolina	27,069	20,697	20,887	17,899	15,304	16,057	15,480	16,858
Virginia	48,649	46,848	39,492	46,849	47,020	46,134	49,854	51,927
West Virginia	2,954	2,413	2,289	2,023	1,936	2,004	2,307	1,564
East South Central	86,601	79,932	82,190	75,753	66,600	86,280	80,426	87,202
Alabama	7,067	5,251	5,789	6,991	6,052	26,991	26,313	27,267
Kentucky	14,254	7,446	11,467	9,589	6,197	6,198	5,086	6,122
Mississippi	29,455	29,324	29,173	23,778	20,528	21,836	19,731	20,886
Tennessee	35,825	37,911	35,761	35,395	33,823	31,255	29,296	32,927
West South Central	322,001	313,297	303,433	280,597	267,960	270,002	246,512	229,965
Arkansas	32,478	29,227	25,616	23,779	22,892	23,666	15,441	13,958
Louisiana	77,897	75,199	72,286	71,862	65,431	64,306	64,885	62,167
Oklahoma	37,406	35,622	30,472	19,699	19,275	22,399	19,578	13,593
Texas	174,220	173,249	175,059	165,257	160,362	159,631	146,608	140,247

See explanatory information and SOURCE at end of table.

**Table B-25. State and local government-financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

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Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Mountain	113,028	115,638	112,017	106,045	72,504	81,483	76,216	75,017
Arizona	11,812	10,266	8,022	8,080	7,257	6,333	7,299	7,945
Colorado	25,787	26,833	28,049	22,122	8,745	18,026	15,471	12,905
Idaho	21,635	20,940	21,555	20,615	9,463	12,550	10,681	8,604
Montana	13,784	14,368	13,433	12,914	9,268	9,029	10,285	8,884
Nevada	4,533	4,411	3,538	6,460	4,570	4,361	3,109	2,608
New Mexico	12,555	14,954	16,842	17,298	14,573	13,998	13,845	15,467
Utah	17,556	17,876	16,810	15,431	14,808	13,075	12,874	16,756
Wyoming	5,366	5,990	3,768	3,125	3,820	4,111	2,652	1,848
Pacific	226,117	208,201	193,892	183,572	189,936	186,065	182,007	150,530
Alaska	3,680	3,964	5,842	5,607	4,625	3,012	3,680	1,926
California	139,914	128,617	112,962	107,103	119,649	112,499	111,297	84,205
Hawaii	37,002	28,440	31,826	26,789	25,204	27,099	26,775	27,321
Oregon	32,905	32,335	31,906	30,312	29,042	29,762	27,244	25,727
Washington	12,616	14,845	11,356	13,761	11,416	13,693	13,011	11,351
Outlying Areas	22,086	21,763	20,873	18,763	8,829	8,710	8,140	8,168

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-26. Industry-financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

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Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Total	1,848,571	1,674,531	1,570,767	1,455,917	1,392,619	1,331,740	1,255,574	1,185,855
New England	152,588	146,118	144,524	125,271	130,861	133,365	121,163	123,117
Connecticut	25,916	25,387	23,378	20,327	18,814	18,351	15,273	16,121
Maine	7,074	5,609	4,214	4,158	4,406	4,117	3,545	4,719
Massachusetts	105,802	102,848	105,475	89,409	95,623	98,270	90,422	90,390
New Hampshire	6,209	4,880	3,886	3,919	4,309	4,842	4,451	3,997
Rhode Island	2,074	1,995	2,340	1,991	2,831	3,212	3,135	3,709
Vermont	5,513	5,399	5,231	5,467	4,878	4,573	4,337	4,181
Middle Atlantic	276,181	261,739	241,059	240,936	233,442	225,737	222,010	205,195
New Jersey	27,128	26,186	23,703	25,861	30,042	26,115	25,977	19,502
New York	93,392	96,228	94,137	94,772	91,171	88,053	92,024	85,483
Pennsylvania	155,661	139,325	123,219	120,303	112,229	111,569	104,009	100,210
East North Central	264,079	242,391	232,836	199,636	190,735	181,149	169,055	169,656
Illinois	58,433	50,156	48,582	42,519	42,948	44,745	43,574	49,583
Indiana	40,336	33,321	35,539	34,542	31,873	22,535	21,165	19,726
Michigan	59,053	57,186	58,670	51,386	47,420	47,390	44,903	43,684
Ohio	87,999	82,653	71,745	54,316	49,197	47,781	40,665	37,948
Wisconsin	18,258	19,075	18,300	16,873	19,297	18,698	18,748	18,715
West North Central	117,929	108,396	102,843	105,722	98,455	90,082	85,539	81,592
Iowa	31,058	24,226	22,285	19,391	18,411	17,907	21,563	14,372
Kansas	12,104	11,907	12,131	11,434	7,861	7,527	8,302	7,292
Minnesota	24,128	24,280	23,809	23,510	23,809	21,606	17,529	19,270
Missouri	29,589	30,047	27,107	36,639	35,140	31,492	27,152	30,195
Nebraska	16,749	13,686	12,268	10,933	10,664	8,891	8,529	7,845
North Dakota	3,806	3,439	4,505	3,346	1,989	2,173	2,056	2,308
South Dakota	495	811	738	469	581	486	408	310
South Atlantic	383,491	333,933	321,140	306,341	285,206	279,693	257,125	241,813
Delaware	3,859	3,361	2,964	3,681	4,117	4,857	5,075	4,732
District of Columbia	19,481	18,381	14,448	13,297	11,804	10,313	8,113	7,279
Florida	51,668	49,043	46,717	36,382	37,516	40,565	35,077	35,690
Georgia	85,820	73,284	63,791	55,129	53,469	51,968	42,067	40,010
Maryland	41,623	41,067	58,767	55,986	45,843	47,737	44,211	39,915
North Carolina	119,230	96,116	85,694	74,086	65,899	69,950	63,625	55,079
South Carolina	11,400	8,682	10,678	19,364	18,990	14,242	19,061	15,903
Virginia	45,863	40,280	34,473	45,256	43,510	36,088	34,301	32,035
West Virginia	4,547	3,719	3,608	3,160	4,058	3,973	5,595	11,170
East South Central	79,101	71,065	77,337	71,065	65,446	62,871	57,070	52,168
Alabama	30,279	29,685	29,706	29,164	25,170	23,729	21,620	20,348
Kentucky	18,468	14,781	19,686	16,627	15,970	13,575	12,800	10,569
Mississippi	10,399	9,169	11,122	8,929	8,885	9,824	9,141	8,892
Tennessee	19,955	17,430	16,823	16,345	15,421	15,743	13,509	12,359
West South Central	184,416	186,870	153,473	141,837	134,506	123,362	117,354	108,774
Arkansas	8,185	7,570	8,207	7,693	7,763	6,767	5,381	4,514
Louisiana	23,216	32,544	23,246	21,235	19,715	16,508	17,757	15,678
Oklahoma	13,320	14,036	11,804	11,453	10,958	10,320	10,170	8,559
Texas	139,695	132,720	110,216	101,456	96,070	89,767	84,046	80,023

See explanatory information and SOURCE at end of table.

**Table B-26. Industry-financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 2 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Mountain	99,428	91,848	89,164	86,099	96,006	88,619	91,969	79,189
Arizona	22,125	18,584	17,099	23,238	21,746	18,889	19,130	19,519
Colorado	26,785	23,756	23,695	20,605	30,340	23,651	21,637	16,481
Idaho	7,551	8,883	9,957	7,408	10,041	7,286	5,147	5,050
Montana	8,437	8,470	7,000	5,825	3,965	3,234	3,230	4,406
Nevada	5,355	5,464	8,042	6,941	7,054	5,245	5,992	5,323
New Mexico	12,559	9,915	11,840	10,696	13,611	18,743	22,460	19,530
Utah	13,502	14,550	9,445	9,456	8,064	9,303	11,532	6,880
Wyoming	3,114	2,226	2,086	1,930	1,185	2,268	2,841	2,000
Pacific	286,019	229,546	206,097	177,062	156,721	146,357	133,273	123,674
Alaska	16,081	12,769	9,965	5,470	4,441	4,751	3,275	1,547
California	207,365	160,304	140,095	120,171	105,824	99,371	94,024	86,314
Hawaii	10,949	5,944	8,088	299	434	151	337	856
Oregon	10,096	9,647	8,620	11,693	9,672	8,578	6,736	6,850
Washington	41,528	40,882	39,329	39,429	36,350	33,506	28,901	28,107
Outlying Areas	5,339	2,625	2,294	1,948	1,241	505	1,016	677

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-27. Institutionally financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 1 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Total	4,963,671	4,454,191	4,114,835	3,995,257	3,778,827	3,539,315	3,512,839	3,336,110
New England	229,791	265,136	258,172	224,394	235,575	225,882	215,642	188,447
Connecticut	66,868	76,391	78,954	78,243	79,487	80,829	79,429	73,778
Maine	10,810	10,526	12,172	9,357	10,907	9,674	8,892	9,504
Massachusetts	96,624	125,151	120,220	92,002	96,861	91,877	86,110	71,025
New Hampshire	17,439	15,058	11,549	12,948	16,859	11,768	11,421	10,225
Rhode Island	26,130	26,545	24,617	22,325	23,965	23,481	22,345	17,520
Vermont	11,920	11,465	10,660	9,519	7,496	8,253	7,445	6,395
Middle Atlantic	631,937	570,474	548,577	516,490	479,381	448,165	463,379	448,201
New Jersey	150,482	139,540	141,839	133,955	116,838	116,307	119,163	114,157
New York	283,770	248,099	238,690	218,239	204,459	182,562	185,941	192,179
Pennsylvania	197,685	182,835	168,048	164,296	158,084	149,296	158,275	141,865
East North Central	867,899	784,650	742,270	688,567	637,624	559,002	537,691	517,977
Illinois	260,448	220,259	211,427	194,776	185,036	178,026	171,466	177,424
Indiana	126,098	113,903	108,023	101,283	83,841	65,991	64,601	61,425
Michigan	220,595	208,882	199,102	192,604	179,925	172,114	163,068	152,841
Ohio	151,197	143,733	130,000	107,789	103,365	89,146	83,800	73,765
Wisconsin	109,561	97,873	93,718	92,115	85,457	53,725	54,756	52,522
West North Central	392,331	381,101	346,122	343,252	332,393	331,398	309,242	302,079
Iowa	88,591	83,880	80,221	77,793	77,371	80,919	71,144	74,471
Kansas	56,206	56,752	52,546	52,517	53,884	44,215	42,537	39,897
Minnesota	55,541	53,751	46,759	46,255	46,551	64,860	61,532	60,904
Missouri	108,237	108,016	91,496	92,974	87,905	78,490	69,361	67,335
Nebraska	55,018	50,105	44,096	46,329	40,842	37,179	38,965	35,616
North Dakota	26,091	25,554	27,980	25,043	23,224	23,595	23,417	22,336
South Dakota	2,647	3,043	3,024	2,341	2,616	2,140	2,286	1,520
South Atlantic	895,240	875,661	720,449	739,437	652,050	645,324	614,458	585,604
Delaware	19,222	20,125	13,074	14,560	13,946	13,937	14,522	12,724
District of Columbia	25,865	24,092	21,321	19,937	19,322	18,346	15,871	12,718
Florida	183,378	177,605	160,422	180,109	123,158	119,937	108,535	116,339
Georgia	246,047	252,398	223,909	227,244	200,733	167,509	161,049	149,645
Maryland	142,535	132,531	112,634	103,679	94,134	125,118	123,249	122,290
North Carolina	92,839	105,767	64,095	61,857	63,465	63,862	65,197	51,758
South Carolina	82,573	65,914	48,596	53,994	54,049	52,850	51,932	54,011
Virginia	76,684	74,039	61,948	64,587	68,602	69,633	61,928	52,928
West Virginia	26,097	23,190	14,450	13,470	14,641	14,132	12,175	13,191
East South Central	249,558	204,284	188,310	180,071	172,309	135,481	135,311	137,579
Alabama	82,216	84,747	77,312	79,861	78,018	48,358	48,532	52,667
Kentucky	83,214	53,070	49,194	43,883	40,965	42,013	39,870	38,008
Mississippi	30,603	13,623	11,600	11,211	12,414	10,960	9,485	12,132
Tennessee	53,525	52,844	50,204	45,116	40,912	34,150	37,424	34,772
West South Central	457,059	426,298	413,013	462,912	468,208	437,244	418,771	415,469
Arkansas	25,343	23,985	21,184	19,717	17,228	14,774	14,321	12,945
Louisiana	85,109	78,310	69,212	69,687	66,688	61,267	51,397	44,184
Oklahoma	59,439	52,462	72,669	79,107	68,401	67,338	76,907	74,265
Texas	287,168	271,541	249,948	294,401	315,891	293,865	276,146	284,075

See explanatory information and SOURCE at end of table.

**Table B-27. Institutionally financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 2 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Mountain	377,463	354,839	334,312	316,861	299,709	271,634	271,936	242,979
Arizona	146,586	137,165	137,834	126,380	113,476	112,596	110,306	109,028
Colorado	68,065	50,422	50,995	52,080	54,001	41,797	36,675	23,078
Idaho	15,447	14,258	14,436	9,350	17,219	11,068	13,232	11,697
Montana	13,435	15,684	21,133	20,172	14,902	14,011	11,545	10,820
Nevada	24,314	30,749	25,924	24,798	22,603	25,193	25,553	19,675
New Mexico	45,780	42,442	39,092	38,562	30,561	28,507	25,388	28,762
Utah	42,561	40,376	26,618	28,065	30,278	27,825	38,330	33,779
Wyoming	21,275	23,743	18,280	17,454	16,669	10,637	10,907	6,140
Pacific	849,528	584,578	556,925	514,853	491,060	474,868	535,509	487,527
Alaska	24,340	26,082	25,217	23,850	26,253	17,412	27,205	28,246
California	699,606	439,942	409,980	372,600	364,732	367,837	427,386	389,142
Hawaii	13,170	13,297	4,386	3,738	3,290	3,109	3,319	3,391
Oregon	37,800	35,824	40,769	37,453	37,826	34,209	30,184	21,519
Washington	74,612	69,433	76,573	77,212	58,959	52,301	47,415	45,229
Outlying Areas	12,865	7,170	6,685	8,420	10,518	10,317	10,900	10,248

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-28. All other sources of financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 1 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Total	1,825,107	1,668,376	1,594,814	1,592,719	1,553,025	1,466,306	1,392,536	1,292,435
New England	172,196	152,547	147,499	177,518	185,653	177,918	156,613	139,671
Connecticut	34,801	34,775	31,931	32,008	33,781	34,899	33,135	27,920
Maine	398	392	493	592	404	418	481	600
Massachusetts	113,116	96,289	96,314	127,388	135,654	128,318	112,331	99,035
New Hampshire	14,409	12,295	12,908	12,112	10,700	9,292	5,983	7,545
Rhode Island	3,181	2,859	2,130	1,725	1,980	2,174	2,210	2,325
Vermont	6,291	5,937	3,723	3,693	3,134	2,817	2,473	2,246
Middle Atlantic	339,620	315,116	298,602	311,610	277,797	238,999	244,955	234,327
New Jersey	39,171	34,968	29,016	33,434	29,251	28,198	26,705	25,246
New York	231,095	210,366	202,785	212,642	188,603	149,800	150,507	151,101
Pennsylvania	69,354	69,782	66,801	65,534	59,943	61,001	67,743	57,980
East North Central	276,388	272,132	258,546	250,734	264,363	264,475	251,915	214,856
Illinois	79,788	75,453	62,603	64,082	69,657	64,276	64,729	56,524
Indiana	19,483	20,122	19,798	19,521	18,464	25,990	22,964	17,249
Michigan	68,629	71,771	76,444	57,480	60,659	63,634	63,194	52,533
Ohio	49,335	49,219	46,249	58,828	62,613	62,411	59,278	54,142
Wisconsin	59,153	55,567	53,452	50,823	52,970	48,164	41,750	34,408
West North Central	115,457	99,547	90,975	85,346	80,113	83,925	75,514	80,397
Iowa	18,327	18,893	18,729	14,686	14,946	16,695	11,396	12,589
Kansas	16,000	8,809	7,819	8,166	7,873	6,086	4,556	4,105
Minnesota	28,943	34,525	23,990	22,544	20,826	21,135	22,319	32,796
Missouri	42,259	28,801	32,323	33,343	30,310	24,666	26,296	24,090
Nebraska	5,253	5,209	4,460	3,567	3,798	12,907	8,448	4,755
North Dakota	2,734	1,826	2,150	1,853	1,466	1,652	1,601	1,389
South Dakota	1,941	1,484	1,504	1,187	894	784	898	673
South Atlantic	244,283	240,372	211,906	199,500	185,333	166,139	154,579	143,582
Delaware	8,527	6,601	6,197	5,424	4,241	3,953	3,042	3,163
District of Columbia	18,999	16,433	17,018	14,643	15,432	15,176	14,005	11,145
Florida	39,805	33,957	32,174	29,065	31,173	28,691	22,546	28,606
Georgia	30,080	24,413	26,857	24,726	20,208	15,079	15,157	12,478
Maryland	68,461	79,984	56,178	52,549	41,395	33,575	32,898	31,893
North Carolina	34,502	29,169	30,459	21,337	27,243	18,745	19,699	19,093
South Carolina	10,572	20,820	17,705	19,388	17,921	22,005	17,678	10,387
Virginia	29,412	24,302	21,493	28,086	24,231	25,665	24,737	22,449
West Virginia	3,925	4,693	3,825	4,282	3,489	3,250	4,817	4,368
East South Central	68,453	58,172	48,036	52,207	53,027	50,490	44,396	44,608
Alabama	29,862	18,025	15,634	21,540	18,398	20,800	19,552	20,653
Kentucky	8,743	7,292	3,273	4,874	4,814	4,925	4,793	4,904
Mississippi	1,931	10,135	10,283	6,291	11,219	8,404	5,686	5,620
Tennessee	27,917	22,720	18,846	19,502	18,596	16,361	14,365	13,431
West South Central	220,230	202,371	228,069	208,307	210,858	202,297	203,265	195,180
Arkansas	7,154	6,401	5,285	3,262	3,244	3,442	3,451	3,486
Louisiana	19,563	16,929	17,841	19,497	18,083	17,199	20,486	14,837
Oklahoma	14,773	13,161	13,864	16,608	16,898	16,436	16,286	13,401
Texas	178,740	165,880	191,079	168,940	172,633	165,220	163,042	163,456

See explanatory information and SOURCE at end of table.

**Table B-28. All other sources of financed R&D expenditures at doctorate-granting institutions,
by geographic division and State: fiscal years 1991-1998**

[Dollars in thousands]

Page 2 of 2

Division and State	1998	1997	1996	1995	1994	1993	1992	1991
Mountain	73,017	70,404	67,013	69,149	79,547	72,239	63,110	56,623
Arizona	15,306	12,706	13,037	12,043	18,304	23,100	19,758	16,009
Colorado	35,270	36,910	33,598	35,456	35,332	25,500	22,845	20,304
Idaho	798	452	447	1,538	592	844	493	405
Montana	1,039	808	694	586	509	407	1,069	238
Nevada	4,190	3,773	753	995	1,280	1,129	1,172	915
New Mexico	5,266	7,200	8,310	7,283	13,807	12,442	9,691	12,071
Utah	10,209	7,764	8,746	8,660	8,048	7,852	7,599	6,442
Wyoming	939	791	1,428	2,588	1,675	965	483	239
Pacific	313,363	255,874	243,511	237,196	215,055	207,248	196,196	181,249
Alaska	0	1	6	4	4	5	1,655	1,378
California	270,444	221,416	206,954	197,545	177,432	170,992	163,631	150,092
Hawaii	0	5	0	3,365	1,759	2,240	2,143	1,741
Oregon	25,128	17,767	20,198	21,041	20,545	18,245	15,553	16,439
Washington	17,791	16,685	16,353	15,241	15,315	15,766	13,214	11,599
Outlying Areas	2,100	1,841	657	1,152	1,279	2,576	1,993	1,942

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
United States, total	25,735,268	15,076,571	1,927,906	1,870,043	4,999,381	1,861,367
Public, total	17,391,022	9,016,467	1,757,863	1,267,036	4,218,736	1,130,920
Private, total	8,344,246	6,060,104	170,043	603,007	780,645	730,447
Alabama, total	442,196	282,113	7,238	30,279	82,308	40,258
Public, total	403,787	254,319	7,067	30,279	82,260	29,862
Alabama A&M University	14,143	10,518	417	22	2,335	851
Alabama State University	1,177	1,133	0	0	44	0
Auburn University	87,768	27,706	1,312	4,452	50,639	3,659
The University of Alabama	24,043	14,909	2,818	1,301	5,011	4
U of Alabama Birmingham	227,720	166,830	614	16,842	18,086	25,348
U of Alabama Huntsville	36,946	23,772	1,300	5,883	5,991	0
U of South Alabama	11,990	9,451	606	1,779	154	0
Private, total	38,409	27,794	171	0	48	10,396
Oakwood College	845	690	0	0	48	107
Selma University	210e	210e	0e	0e	0e	0e
Talladega College	0e	0i	0i	0i	0i	0i
Tuskegee University	37,354	26,894	171	0	0	10,289
Alaska, total	75,854	31,632	3,691	16,116	24,382	33
Public, total	75,854	31,632	3,691	16,116	24,382	33
U of Alaska Fairbanks	75,606	31,505	3,680	16,081	24,340	0
U of Alaska, Anchorage	0e	0e	0i	0i	0i	0i
U of Alaska, SE	248	127	11	35	42	33
Arizona, total	405,999	210,170	11,812	22,125	146,586	15,306
Public, total	405,999	210,170	11,812	22,125	146,586	15,306
Arizona State University	92,019	41,359	1,628	4,609	41,121	3,302
Northern Arizona U	11,652	6,812	1,310	1,124	2,406	0
University of Arizona	302,328	161,999	8,874	16,392	103,059	12,004
Arkansas, total	116,778	41,204	33,154	8,246	26,994	7,180
Public, total	116,705	41,131	33,154	8,246	26,994	7,180
Arkansas State University	962	152	611	0	199	0
Arkansas Tech Univ	419	55	65	61	238	0
U Arkansas Main	71,686	16,156	31,935	5,145	15,523	2,927
U Arkansas Medical Sci	39,487	21,857	543	3,040	9,820	4,227
U Arkansas Pine Bluff	4,151	2,911	0	0	1,214	26
Private, total	73	73	0	0	0	0
Philander Smith College	73e	73e	0	0	0	0
California, total	3,344,740	2,008,924	146,021	213,137	702,175	274,483
Public, total	2,439,655	1,269,525	134,683	153,850	631,456	250,141
CA St U Chico	3,376	1,497	1,109	770	0	0
CA St U Long Beach	6,252i	5,190i	190i	670i	0i	202i
Calif Polytechnic	5,972	3,948	602	272	0	1,150
Calif State San Bernardin	390	258	0	0	107	25
Calif State, Fullerton	1,749e	1,028e	178i	116i	203i	224i
Calif State, Northridge	2,175	1,309	100	112	227	427
Humboldt State University	4,417	2,185	1,557	151	61	463
San Diego St University	41,915	19,721	3,156	853	13,459	4,726
San Jose State University	21,005e	11,825e	2,537e	4,324e	1,655e	664e
Sonoma State University	194	145	13	0	29	7
U CA Berkeley	420,435	171,135	47,961	20,483	144,016	36,840
U CA Davis	288,796	114,912	19,249	14,077	117,639	22,919
U CA Irvine	130,415	65,902	5,700	15,712	27,607	15,494
U CA Los Angeles	447,367	233,702	8,676	27,817	114,359	62,813
U CA Riverside	79,775	22,988	4,419	2,001	42,729	7,638
U CA San Diego	418,790	262,303	19,548	26,814	70,535	39,590
U CA San Francisco	379,970	219,912	16,024	34,267	64,241	45,526
U CA Santa Barbara	96,034	68,408	1,789	3,666	15,789	6,382
U CA Santa Cruz	56,533	29,849	1,665	1,458	18,800	4,761

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
California, continued:						
Public, continued:						
US Naval Postgrad School	34,095	33,308	210	287	0	290
Private, total	905,085	739,399	11,338	59,287	70,719	24,342
Biola University	0	0	0	0	0	0
C R Drew U of Med & Sci	17,205e	16,052e	0	1,153e	0	0
CA Inst of Integral Stu	0	0	0	0	0	0
CA Sch Prof Psy Brk/Alm	193	77	51	0	51	14
CA Sch Prof Psy Fresno	1,777	608	481	42	248	398
CA Sch Prof Psy L.A.	149	13	62	0	58	16
CA Sch Prof Psy S Diego	1,020	517	157	42	65	239
California Inst of Tech	185,066	177,748	433	2,001	3,977	907
Claremont Graduate Sch	401	123	24	2	78	174
Fuller Theological Sem	27e	21e	0	2e	4e	0
Golden Gate University	0	0	0	0	0	0
Loma Linda University	12,788	7,834	128	3,192	1,533	101
Occidental College	2,220e	1,513e	10i	26i	52i	619i
Pepperdine University	0	0	0	0	0	0
Pitzer College	260	197	0	0	60	3
Pomona College	1,010	376	1	1	175	457
Santa Clara University	2,189i	506i	0i	544i	1,076i	63i
Stanford University	410,309	342,426	2,543	27,404	16,641	21,295
U of Southern California	268,806	190,547	7,448	24,125	46,686	0
US International U	0	0	0	0	0	0
University of San Diego	484	334	0	94	0	56
University of the Pacific	886	254	0	632	0	0
Western U of Hlth Sci	295	253	0	27	15	0
Colorado, total	489,419	332,402	26,136	26,818	68,164	35,899
Public, total	478,495	322,853	26,053	26,031	67,887	35,671
Colorado School of Mines	20,681	8,694	1,347	9,877	763	0
Colorado State University	140,179	80,451	19,168	6,155	34,271	134
Fort Lewis College	599	149	86	0	0	364
U of Colorado HSC	121,624	89,022	2,885	4,093	12,890	12,734
U of Colorado, Boulder	186,211	137,241	1,822	5,290	19,702	22,156
U of Colorado, Col Spgs	1,137	429	78	427	203	0
U of Colorado, Denver	2,231	1,650	354	153	0	74
U of Northern Colorado	736e	609e	72e	14e	41e	0e
U of Southern Colorado	824	538	184	2	17	83
U.S. Air Force Academy	4,163	4,033	0	20	0	110
W State Coll, Colorado	110	37	57	0	0	16
Private, total	10,924	9,549	83	787	277	228
Colorado College	211	106	22	11	72	0
Regis University	124	58	0	0	10	56
University of Denver	10,589	9,385	61	776	195	172
Connecticut, total	403,961	262,488	13,289	25,926	67,005	35,253
Public, total	134,748	53,489	11,902	9,905	49,404	10,048
US Coast Guard Academy	300	300	0	0	0	0
University of Connecticut	134,448	53,189	11,902	9,905	49,404	10,048
Private, total	269,213	208,999	1,387	16,021	17,601	25,205
Connecticut College	432e	0e	2i	10i	15i	405i
University of Hartford	397	124	0	173	100	0
University of New Haven	558e	259i	130i	0i	122i	47i
Wesleyan University	5,146	3,570	58	9	1,108	401
Yale University	262,680	205,046	1,197	15,829	16,256	24,352

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

Page 3 of 14

State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Delaware, total	72,779	36,422	4,701	3,867	19,244	8,545
Public, total	72,779	36,422	4,701	3,867	19,244	8,545
Delaware State University	2,883	2,734	101	8	22	18
University of Delaware	69,896	33,688	4,600	3,859	19,222	8,527
District of Columbia, total	232,922	165,715	2,042	19,481	26,442	19,242
Public, total	3,074	1,898	356	0	577	243
University of DC	3,074	1,898	356	0	577	243
Private, total	229,848	163,817	1,686	19,481	25,865	18,999
American University	3,453	3,163	2	0	141	147
Catholic U of America	9,418	7,161	8	1,004	599	646
Gallaudet University	2,212	2,119	93	0	0	0
George Washington U	74,481	45,072	1,006	7,575	9,885	10,943
Georgetown University	116,611	84,801	174	9,383	15,237	7,016
Howard University	23,673	21,501	403	1,519	3	247
Florida, total	712,704	355,892	80,720	51,772	184,475	39,845
Public, total	564,685	248,750	77,498	36,508	175,617	26,312
Florida A&M University	19,066	15,726	3,340	0	0	0
Florida Atlantic U	14,265	9,582	702	3,981	0	0
Florida International U	17,880	14,243	1,474	559	1,171	433
Florida State University	94,463	50,451	1,659	1,159	36,595	4,599
U of Central Florida	35,530	13,502	4,329	4,019	13,680	0
U of South Florida	104,325	35,930	7,833	5,397	44,613	10,552
Univ of West Florida	4,294	2,806	1,448	0	0	40
University of Florida	274,862	106,510	56,713	21,393	79,558	10,688
Private, total	148,019	107,142	3,222	15,264	8,858	13,533
Bethune Cookman College	566	566	0	0	0	0
Embry-Riddle Aero Univ	2,647	1,432	14	104	1,097	0
Florida Inst of Tech	5,848	2,152	1,467	1,822	407	0
Nova Southeastern U	1,986	1,500	291	0	28	167
University of Miami	136,972	101,492	1,450	13,338	7,326	13,366
Georgia, total	802,023	369,764	70,019	86,040	246,086	30,114
Public, total	552,608	196,574	62,175	73,030	216,404	4,425
Albany State University	1,019	1,019	0	0	0	0
Fort Valley State U	2,989	2,359	415	215	0	0
Georgia Institute of Tech	259,233	113,643	13,400	58,377	73,813	0
Georgia State University	31,153	11,284	4,144	832	13,397	1,496
Kennesaw State Univ	132	132	0	0	0	0
Medical Col of Georgia	39,806	13,127	1,415	3,072	20,493	1,699
Savannah State Univ	331	298i	0i	0i	0i	33i
University of Georgia	217,945	54,712	42,801	10,534	108,701	1,197
Private, total	249,415	173,190	7,844	13,010	29,682	25,689
Clark Atlanta University	29,637	24,079	2,318i	899i	84i	2,257i
Emory University	172,884	118,045	5,026	7,670	19,673	22,470
Inst Paper Sci and Tech	15,424e	3,746e	470e	1,976e	8,285e	947e
Mercer University	14,995	12,043	30	1,718	1,204	0
Morehouse College	592e	591e	0	0	0	1e
Morehouse School of Med	13,614	12,461	0	742	397	14
Morris Brown College	525e	525e	0	0	0	0
Spelman College	1,744	1,700	0	5	39	0
Hawaii, total	148,007	86,886	37,002	10,949	13,170	0
Public, total	148,007	86,886	37,002	10,949	13,170	0
Univ of Hawaii Manoa	148,007	86,886	37,002	10,949	13,170	0

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Idaho, total	72,395	25,444	21,760	8,059	16,334	798
Public, total	72,395	25,444	21,760	8,059	16,334	798
Boise State University	3,412	1,892	125	508	887	0
Idaho State University	10,016	5,200	2,566	1,055	1,195	0
University of Idaho	58,967	18,352	19,069	6,496	14,252	798
Illinois, total	1,045,800	586,627	56,752	59,665	262,243	80,513
Public, total	556,000	269,622	50,982	28,947	177,540	28,909
Chicago State University	713	696	0	0	17	0
Illinois State University	4,688e	2,468e	1,597e	0	43	580e
Northeastern Illinois U	186	68	19	32	58	9
Northern Illinois U	12,495	4,810	457	2,743	4,485	0
S Illinois U Edwardsville	966	244	354	210	158	0
Sthrn IL U Carbondale	30,490	7,801	7,114	2,306	10,325	2,944
U of Illinois Urbana	338,841	168,871	35,493	13,917	106,797	13,763
University of IL Chicago	151,739	73,797	3,262	9,424	54,353	10,903
Western Illinois U	15,882	10,867	2,686	315	1,304	710
Private, total	489,800	317,005	5,770	30,718	84,703	51,604
Augustana College	58e	42e	0i	1i	9i	6i
Bradley University	1,493	632	13	668	180	0
DePaul University	1,233	822	0	334	77	0
Finch U Hlth Sci Chicago	6,672e	5,022e	0	140e	807e	703e
Illinois Inst of Tech	14,013	9,946	162	2,469	1,436	0
Lake Forest College	103	28	0	6	69	0
Loyola U of Chicago	34,241	17,685	1,889	3,024	6,145	5,498
Midwesterner University	1,840	491	6	189	981	173
Northwestern University	223,235	127,911	3,081	13,292	52,608	26,343
Rush University	55,277	28,444	14	8,911	13,987	3,921
University of Chicago	151,635	125,982	605	1,684	8,404	14,960
Indiana, total	425,293	213,547	25,517	40,336	126,410	19,483
Public, total	395,849	190,235	25,378	38,316	122,437	19,483
Ball State University	2,361	959	29	384	989	0
Indiana State University	5,255	592	52	4,611	0	0
Indiana University	171,754	95,840	1,683	6,333	48,713	19,185
Purdue University	216,479	92,844	23,614	26,988	72,735	298
Private, total	29,444	23,312	139	2,020	3,973	0
University of Notre Dame	28,873	23,053	139	2,020	3,661	0
Valparaiso University	571	259	0	0	312	0
Iowa, total	358,259	167,123	52,945	31,066	88,665	18,460
Public, total	357,511	167,004	52,945	31,040	88,272	18,250
Iowa State University	156,766	51,196	46,802	13,717	41,836	3,215
U of Iowa	199,063	115,312	5,898	17,262	45,687	14,904
U of Northern Iowa	1,682	496	245	61	749	131
Private, total	748	119	0	26	393	210
Grinnell College	332e	117e	0i	8i	74i	133i
Maharishi U of Mgmt	0	0	0	0	0	0
U Osteo Med & Hlth Sci	416	2	0	18	319	77
Kansas, total	213,096	80,443	47,089	12,385	56,215	16,964
Public, total	213,096	80,443	47,089	12,385	56,215	16,964
Kansas State University	81,233	27,001	32,599	3,445	15,799	2,389
Pittsburg State U	1,631	229	148	281	9	964
University of Kansas	117,115	50,567	9,662	8,281	35,467	13,138
Wichita State University	13,117	2,646	4,680	378	4,940	473

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Kentucky, total	209,780	80,390	15,049	19,176	86,057	9,108
Public, total	209,591	80,214	15,049	19,176	86,044	9,108
Kentucky State University	713	703	10	0	0	0
Murray State University	2,043	554	535	24	930	0
University of Kentucky	161,346	60,760	12,762	13,668	71,635	2,521
University of Louisville	39,147	15,067	1,492	4,800	11,566	6,222
Western Kentucky Univ	6,342	3,130	250	684	1,913	365
Private, total	189	176	0	0	13	0
Spalding University	189	176	0	0	13	0
Louisiana, total	351,976	144,039	78,128	23,406	86,840	19,563
Public, total	258,555	85,596	74,923	12,672	69,785	15,579
Grambling State U	1,997	1,936	44	4	13	0
Louisiana St U, All Camp	208,928	67,090	69,790	12,157	45,479	14,412
Louisiana Tech University	7,659	2,287	1,758	325	3,289	0
Northeast Louisiana U	6,140	1,466	834	0	3,840	0
Southern U A&M All Camp	9,063	6,983	176	186	1,718	0
U of Southwestern LA	24,768	5,834	2,321	0	15,446	1,167
Private, total	93,421	58,443	3,205	10,734	17,055	3,984
Dillard University	175e	164e	11e	0e	0e	0e
Tulane University	87,858	52,924	3,161	10,734	17,055	3,984
Xavier University of LA	5,388	5,355	33	0	0	0
Maine, total	35,265	13,981	1,809	7,252	11,194	1,029
Public, total	33,720	13,264	1,807	7,074	10,924	651
U of Maine	33,106	13,028	1,796	7,074	10,810	398
Univ of Southern Maine	614	236	11	0	114	253
Private, total	1,545	717	2	178	270	378
Bates College	682	411	2	2	33	234
Bowdoin College	474	213	0	176	85	0
Colby College	389	93	0	0	152	144
Maryland, total	1,330,170	1,014,239	62,950	41,752	142,710	68,519
Public, total	475,247	260,065	62,419	26,962	102,014	23,787
Bowie State University	4,511	4,403	54	54	0	0
Coppin State College	6	6	0	0	0	0
Morgan State University	3,981	3,960	21	0	0	0
Towson State University	959	268	500	8	125	58
U MD Baltimore County	18,155	12,618	1,553	2,858	1,126	0
U MD Biotechnology Inst	31,861	11,789	581	986	15,955	2,550
U MD College Park	223,190	129,198	37,382	2,127	48,705	5,778
U MD Ctr for Environ Sci	24,038	7,440	3,017	79	11,082	2,420
U MD Eastern Shore	2,265	2,265	0	0	0	0
U of MD Baltimore	143,321	78,037	19,311	20,783	12,209	12,981
US Naval Academy	2,651	2,534	0	67	50	0
Unif Svcs U of Hlth Sci	20,309	7,547	0	0	12,762	0
Private, total	854,923	754,174	531	14,790	40,696	44,732
Johns Hopkins U	853,620	752,983	525	14,761	40,619	44,732
Loyola College	1,303	1,191	6	29	77	0
Massachusetts, total	1,342,712	987,319	31,704	107,368	98,737	117,584
Public, total	208,719	116,112	25,089	14,797	39,000	13,721
Fitchburg State College	34	0	0	0	34	0
U MA Amherst	89,970	43,196	7,072	6,236	26,967	6,499
U MA Boston	11,491	3,160	1,351	0	4,005	2,975
U MA Dartmouth	4,902	3,731	325	831	15	0
U MA Lowell	19,372	12,259	530	5,099	1,484	0
U MA Worcester	82,950	53,766	15,811	2,631	6,495	4,247

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Massachusetts, continued:						
Private, total	1,133,993	871,207	6,615	92,571	59,737	103,863
Amherst College	1,573	861	0	117	595	0
Boston College	17,774	12,778	369	577	2,744	1,306
Boston University	130,054	104,428	1,633	9,461	0	14,532
Brandeis University	44,589	28,098	151	0	4,801	11,539
Clark University	2,147	1,660	0	0	0	487
College of the Holy Cross	430	251	0	10	50	119
Hampshire College	2,972	1,264	1	0	40	1,667
Harvard University	306,100	251,876	156	10,361	0	43,707
MA Col Phar Allied Hlth	89	0	0	89	0	0
MA Institute of Tech	413,098	310,741	2,722	60,538	27,699	11,398
Mount Holyoke College	1,033	733	0	0	200	100
New England Col Opt	1,734	1,020	0	342	327	45
Northeastern University	26,385	21,454	593	3,530	808	0
Smith College	1,295	634	0	26	226	409
Tufts University	92,130	61,167	687	5,560	17,346	7,370
Wellesley College	4,943e	2,304e	31e	27e	800e	1,781e
Wentworth Inst of Tech	1,146	933	0	213	0	0
Williams College	1,853e	1,010e	9i	26i	52i	756i
Woods Hole Oceanograph	75,011	64,765	165	209	2,094	7,778
Worcester Polytech Inst	9,637	5,230	98	1,485	1,955	869
Michigan, total	877,804	472,416	56,146	59,400	221,186	68,656
Public, total	875,124	471,562	56,142	57,779	221,048	68,593
Central Michigan U	0	0	0	0	0	0
Ferris State University	78	49	0	0	17	12
Grand Valley State U	892	92	125	57	591	27
Michigan State University	193,611	81,146	35,752	7,250	61,514	7,949
Michigan Tech University	26,522	13,938	1,417	3,747	5,738	1,682
Oakland University	7,272	3,218	703	889	2,163	299
University of Michigan	496,761	311,450	3,962	33,029	107,004	41,316
Wayne State University	138,456	57,646	12,978	11,207	41,231	15,394
Western Michigan U	11,532	4,023	1,205	1,600	2,790	1,914
Private, total	2,680	854	4	1,621	138	63
Andrews University	290	117	0	0	110	63
Kettering University	433	192	0	241	0	0
Lawrence Tech Univ	104	51	4	49	0	0
U of Detroit Mercy	1,853	494	0	1,331	28	0
Minnesota, total	364,503	206,258	47,696	25,173	55,925	29,451
Public, total	364,197	206,100	47,658	25,139	55,849	29,451
Minnesota State, Mankato	1,939	372	407	820	0	340
St. Cloud State Univ	1,935	987	171	225	384	168
University of Minnesota	360,323	204,741	47,080	24,094	55,465	28,943
Private, total	306	158	38	34	76	0
University of St. Thomas	306	158	38	34	76	0
Mississippi, total	152,683	79,772	29,455	10,399	31,126	1,931
Public, total	151,186	78,798	29,455	10,399	30,603	1,931
Alcorn State University	5,119	5,119	0	0	0	0
Jackson State University	6,111	5,326	548	237	0	0
Mississippi State U	100,410	42,004	24,227	7,470	26,709	0
Mississippi Valley St U	350	350	0	0	0	0
U Mississippi, All Camp	28,079	16,463	4,293	1,887	3,505	1,931
U Southern Mississippi	11,117	9,536	387	805	389	0
Private, total	1,497	974	0	0	523	0
Rust College	317	317	0	0	0	0
Tougaloo College	1,180	657	0	0	523	0

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Missouri, total	484,159	277,894	24,473	29,605	109,470	42,717
Public, total	186,272	66,746	18,685	6,503	85,429	8,909
Lincoln University	3,313	2,438 <i>i</i>	0 <i>i</i>	0 <i>i</i>	417 <i>i</i>	458 <i>i</i>
SW Missouri State Univ	1,797	596	964	7	230	0
Truman State University	754	156	3	9	586	0
U of Missouri Columbia	136,061	45,448	16,978	4,348	63,165	6,122
U of Missouri Kansas City	12,875	6,199	108	505	5,438	625
U of Missouri Rolla	21,740	7,934	182	1,361	10,838	1,425
U of Missouri St Louis	9,462	3,975	279	273	4,656	279
U of Missouri Sys Admn	270	0	171	0	99	0
Private, total	297,887	211,148	5,788	23,102	24,041	33,808
Forest Inst of Prof Psy	0	0	0	0	0	0
Kirksville Col Osteo Med	509	329	0	0	52	128
Saint Louis University	26,943	23,341	256	2,733	264	349
U of Health Sci (MO)	885	305	30	500	15	35
Washington University	269,550	187,173	5,502	19,869	23,710	33,296
Montana, total	72,425	35,730	13,784	8,437	13,435	1,039
Public, total	72,425	35,730	13,784	8,437	13,435	1,039
Montana St U Bozeman	52,292	23,982	12,517 <i>i</i>	7,378 <i>i</i>	8,415 <i>i</i>	0 <i>i</i>
The University of Montana	20,133	11,748	1,267	1,059	5,020	1,039
Nebraska, total	186,200	62,578	46,602	16,749	55,018	5,253
Public, total	171,189	58,482	45,518	10,274	51,763	5,152
U of NE Med Ctr Omaha	50,453	15,663	6,055	5,471	20,070	3,194
U of Nebraska Lincoln	118,857 <i>e</i>	41,888 <i>e</i>	39,208 <i>e</i>	4,721 <i>e</i>	31,243 <i>e</i>	1,797 <i>e</i>
U of Nebraska, Omaha	1,879	931	255	82	450	161
Private, total	15,011	4,096	1,084	6,475	3,255	101
Creighton University	15,011	4,096	1,084	6,475	3,255	101
Nevada, total	83,888	45,496	4,533	5,355	24,314	4,190
Public, total	83,888	45,496	4,533	5,355	24,314	4,190
Desert Research Institute	21,500	15,400	1,500	1,500	1,500	1,600
U of Nevada Las Vegas	16,912	9,713	1,548	2,461	3,190	0
U of Nevada Reno	45,476	20,383	1,485	1,394	19,624	2,590
New Hampshire, total	117,323	70,966	8,300	6,209	17,439	14,409
Public, total	52,359	25,913	5,473	3,635	9,064	8,274
U of New Hampshire	52,359	25,913	5,473	3,635	9,064	8,274
Private, total	64,964	45,053	2,827	2,574	8,375	6,135
Dartmouth College	64,964	45,053	2,827	2,574	8,375	6,135
New Jersey, total	484,642	227,954	39,773	27,236	150,483	39,196
Public, total	352,526	150,784	36,872	19,137	118,716	27,017
NJ Inst of Technology	40,982	21,127	6,968	1,258	10,854	775
Rutgers the State U NJ	197,053	69,829	23,662	9,038	78,879	15,645
U Med & Dent NJ	114,491	59,828	6,242	8,841	28,983	10,597
Private, total	132,116	77,170	2,901	8,099	31,767	12,179
Fairleigh Dickinson U	394	7	301	1	37	48
Monmouth University	382	248	0	108	1	25
Princeton University	115,996	69,005	1,215	5,242	28,428	12,106
Seton Hall University	2,400	1,243	0	0	1,157	0
Stevens Inst of Tech	12,944	6,667	1,385	2,748	2,144	0

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
New Mexico, total	228,623	152,137	12,667	12,559	45,780	5,480
Public, total	228,623	152,137	12,667	12,559	45,780	5,480
NM Inst Mining & Tech	22,791	8,959	1,900	6,385	5,274	273
New Mexico Highlands U	2,552i	2,226i	112i	0i	0i	214i
New Mexico State Univ	77,370	56,587	7,165	2,843	10,014	761
University of New Mexico	125,910	84,365	3,490	3,331	30,492	4,232
New York, total	1,924,667	1,223,705	82,308	96,367	286,449	235,838
Public, total	485,690	271,945	17,504	22,723	113,074	60,444
CUNY Brooklyn College	3,132e	1,574e	161e	573e	732e	92e
CUNY City College	21,147	14,437	2,910	950	0	2,850
CUNY Col Staten Island	1,014	739	17	93	165	0
CUNY H H Lehman Col	1,334i	960i	0i	242i	110i	22i
CUNY Hunter College	13,497	6,414	342	571	4,496	1,674
CUNY Jay Col Crim Just	1,325	912	28	385	0	0
CUNY Queens College	3,353	2,323	18	707	305	0
CUNY York College	1,526	1,480	4	14	28	0
SUNY Albany	50,568	33,894	2,909	1,426	5,083	7,256
SUNY Binghamton	20,754	6,205	2,616	2,726	6,848	2,359
SUNY Buffalo	151,650	76,037	3,913	3,021	39,879	28,800
SUNY Col Brockport	609	349	9	0	249	2
SUNY Col Buffalo	1,157	1,054	96	4	3	0
SUNY Col Cortland	55	26	0	0	26	3
SUNY Col Env Sci Frstry	22,036	2,715	1,785	1,768	15,242	526
SUNY Col Fredonia	118	93	0	1	15	9
SUNY Col Geneseo	475	229	0	0	139	107
SUNY Col Old Westbury	777	767	0	0	3	7
SUNY Col Oswego	716	480	17	19	193	7
SUNY Col Plattsburgh	1,133	802	55	0	249	27
SUNY Col of Optometry	668	386	0	29	161	92
SUNY Grad Sch & U Cir	5,109	3,573	113	0	219	1,204
SUNY Hlth Sci Ctr Brklyn	27,517	18,318	36	3,045	4,136	1,982
SUNY Hlth Sci Ctr Syrcse	14,089	6,487	234	241	614	6,513
SUNY Purchase College	165	160	0	0	0	5
SUNY Stony Brook	141,766	91,531	2,241	6,908	34,179	6,907
Private, total	1,438,977	951,760	64,804	73,644	173,375	175,394
Adelphi University	252	80	0	133	3	36
Albany Medical College	8,236	6,545	0	0	1,146	545
Alfred University	5,275	1,348	921	1,946	705	355
Barnard College	1,172	1,038	0	0	24	110
Clarkson University	6,345	3,010	594	1,500	1,241	0
Columbia University	267,007	229,723	2,578	3,018	10,835	20,853
Cooper Union	1,515e	50e	23i	29i	61i	1,352i
Cornell University	363,511	204,187	37,561	11,253	63,299	47,211
Fordham University	2,247	769	90	0	402	986
Hamilton College	475e	359e	0i	12i	46i	58i
Hofstra University	717	319	398	0	0	0
Ithaca College	1,499	1,075	0	0	369	55
Long Island University	1,221	1,197	0	0	19	5
Manhattan College	563	327	71	165	0	0
Mt Sinai Sch Med	109,448	69,995	2,524	7,588	14,685	14,656
New School University	3,705	773	13	0	0	2,919
New York Inst Technology	295	38	40	42	147	28
New York Medical College	19,159	13,639	58	2,461	0	3,001
New York University	156,452	101,426	1,611	8,391	17,439	27,585
Pace University All Cmp	596	555	0	0	0	41
Polytechnic University	6,373	2,843	1,437	2,093	0	0
Rensselaer Polytech Inst	38,560	21,774	2,226	10,974	2,916	670
Rochester Inst of Tech	8,133e	2,339e	355e	1,462e	3,977e	0
Skidmore College	151	74	0	17	60	0

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
New York, continued:						
Private, continued:						
St John's University (NY)	1,572	916	3	653	0	0
Syracuse University	37,322	29,200	3,210	1,418	1,694	1,800
Teachers Col, Columbia U	6,775	2,900	83	0	0	3,792
The Rockefeller Univ	115,494	43,845	1,966	2,641	29,350	37,692
Union College (NY)	694	126	136	189	166	77
University of Rochester	174,617	130,773	8,904	17,653	6,779	10,508
Vassar College	596e	517e	2i	6i	12i	59i
Yeshiva University	99,000	80,000	0	0	18,000	1,000
North Carolina, total	898,513	516,489	128,976	120,934	96,259	35,855
Public, total	534,012	282,260	122,493	40,226	82,491	6,542
Appalachian State U	558	247	27	0	40	244
East Carolina University	7,644	4,027	1,621	1,996	0	0
Elizabeth City State U	684	575	109	0	0	0
Fayetteville State U	485	378	107	0	0	0
NC A&T State University	14,816	12,924	46	239	1,229	378
NC State University	254,254	79,533	88,497	31,429	49,831	4,964
North Carolina Central U	869	819i	1i	0i	0i	49i
U of NC Chapel Hill	235,296	171,505	29,691	4,860	29,240	0
U of NC Greensboro	2,619	1,829	100	285	0	405
U of NC at Charlotte	6,669	4,150	542	1,317	431	229
U of NC at Wilmington	7,208	4,098	1,175	60	1,602	273
Western Carolina U	442	277	7	40	118	0
Winston Salem State U	2,468	1,898	570	0	0	0
Private, total	364,501	234,229	6,483	80,708	13,768	29,313
Bennett College	811	583	0	48	0	180
Duke University	282,388	172,532	6,233	65,114	13,658	24,851
Johnson C Smith U	4,299	4,299	0	0	0	0
Shaw University	110	110	0	0	0	0
Wake Forest University	76,893	56,705	250	15,546	110	4,282
North Dakota, total	56,945	23,191	1,123	3,806	26,091	2,734
Public, total	56,945	23,191	1,123	3,806	26,091	2,734
North Dakota State U	40,007	9,787	1,068	1,449	25,558	2,145
Univ of North Dakota	16,938	13,404	55	2,357	533	589
Ohio, total	808,210	444,316	74,449	88,340	151,611	49,494
Public, total	585,205	275,127	68,891	74,999	131,360	34,828
Air Force Inst of Tech	4,240	2,228	0	0	2,012	0
Bowling Green State U	3,392	2,029	111	151	1,101	0
Central State University	1,497	1,144	0	269	84	0
Cleveland State U	11,211e	3,696e	3,149e	1,330e	3,036e	0e
Kent State University	12,690	8,251	680	856	2,903	0
Med Col of Ohio	11,425	8,107	648	361	1,601	708
Miami University (OH)	6,738	2,687	54	186	3,669	142
N.E. Ohio Univs Col Med	2,918	1,430	200	83	952	253
Ohio State University	301,518	124,177	53,987	40,401	59,746	23,207
Ohio University	21,469	10,323	1,862	1,948	6,089	1,247
University of Akron	16,326	4,042	1,296	2,767	5,288	2,933
University of Cincinnati	159,695	90,307	4,256	24,388	35,241	5,503
University of Toledo	11,512	5,366	849	934	3,981	382
Wright State University	19,676	10,832	1,756	1,325	5,378	385
Youngstown State Univ	898	508	43	0	279	68
Private, total	223,005	169,189	5,558	13,341	20,251	14,666
Antioch University	0	0	0	0	0	0
Case Western Reserve U	176,330	132,274	4,865	6,984	18,011	14,196
College of Wooster	323	244	0	72	7	0
Ohio Wesleyan University	197	106	0	0	0	91

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Ohio, continued:						
Private, continued:						
The Union Institute	875	0	0	0	621	254
University of Dayton	45,000	36,329	693	6,285	1,568	125
Wilberforce University	280e	236e	0e	0e	44e	0e
Oklahoma, total	208,873	83,785	37,415	13,320	59,574	14,779
Public, total	200,573	79,767	36,484	10,548	59,010	14,764
Langston University	2,031	2,031	0	0	0	0
Oklahoma State University	71,466	23,220	23,412	2,887	21,381	566
U of Central Oklahoma	215	65	9	0	135	6
University of Oklahoma	126,861	54,451	13,063	7,661	37,494	14,192
Private, total	8,300	4,018	931	2,772	564	15
Oral Roberts University	65	16	0	0	34	15
University of Tulsa	8,235	4,002	931	2,772	530	0
Oregon, total	309,748	203,119	32,963	10,201	38,121	25,344
Public, total	287,611	187,622	32,241	8,780	34,677	24,291
Oregon Health Sciences U	105,208i	71,054i	3,206i	7,680i	14,534i	8,734i
Oregon State University	138,240	82,416	28,017	518	14,558	12,731
Portland State University	10,507	6,881	758	447	1,885	536
Southern Oregon Univ	341	230	13	0	75	23
University of Oregon	33,315	27,041	247	135	3,625	2,267
Private, total	22,137	15,497	722	1,421	3,444	1,053
Lewis and Clark College	468	309	0	0	111	48
Oregon Grad Inst Sci Tech	21,047e	14,996e	677e	1,316e	3,198e	860e
Pacific University	0	0	0	0	0	0
University of Portland	282	55	45	0	37	145
Willamette University	340	137	0	105	98	0
Pennsylvania, total	1,341,607	872,722	43,633	156,179	199,139	69,934
Public, total	641,779	385,243	14,970	82,629	138,991	19,946
Indiana U of PA All Cmp	512e	491e	0e	0e	14e	7e
Kutztown U of PA	265	192	65	0	8	0
Lincoln University (PA)	821	520	301	0	0	0
Pennsylvania State U	362,643	186,274	13,075	63,319	99,975	0
Temple University	63,024	28,793	933	8,855	19,831	4,612
University of Pittsburgh	213,842	168,511	534	10,436	19,163	15,198
West Chester U of PA	672	462	62	19	0	129
Private, total	699,828	487,479	28,663	73,550	60,148	49,988
Allegheny U of Hlth Sci	95,984	61,102	7,915	6,835	15,377	4,755
Bryn Mawr College	4,231	910	25	128	3,168	0
Carnegie Mellon U	137,450	95,046	9,733	19,136	5,910	7,625
Dickinson College	1,789	1,168	27	268	326	0
Drexel University	19,603	10,929	938	4,057	3,679	0
Duquesne University	1,297	867	12	380	38	0
Franklin & Marshall Coll	1,158	723	0	0	435	0
Haverford College	1,303	820	0	0	106	377
La Salle University	157	136	0	5	16	0
Lafayette College	625	295	10	96	224	0
Lehigh University	26,115	13,019	4,112	6,074	2,635	275
Phila Col Osteopathic Med	516	57	0	0	134	325
Phila Col of Phar & Sci	358	162	0	196	0	0
St. Joseph's Univ	595	462	0	88	45	0

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

Page 11 of 14

State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Pennsylvania, continued:						
Private, continued:						
Swarthmore College	996	586	0	42	294	74
Thomas Jefferson U	69,460	51,728	1,727	10,155	772	5,078
U of Pennsylvania	333,477	247,914	3,517	25,593	26,158	30,295
Villanova University	4,714	1,555i	647i	497i	831i	1,184i
Widener U All Campuses	0	0	0	0	0	0
Rhode Island, total	111,979	77,737	2,857	2,074	26,130	3,181
Public, total	37,940	33,308	2,800	442	1,390	0
U of Rhode Island	37,940	33,308	2,800	442	1,390	0
Private, total	74,039	44,429	57	1,632	24,740	3,181
Brown University	73,977	44,412	57	1,603	24,724	3,181
Providence College	62	17	0	29	16	0
South Carolina, total	246,305	112,845	27,166	11,407	83,416	11,471
Public, total	243,746	110,950	27,166	11,407	82,959	11,264
Clemson University	90,150	28,199	20,835	6,641	29,689	4,786
College of Charleston	1,989	1,724	73	7	111	74
Med U of South Carolina	55,937	36,473	1,844	2,737	11,993	2,890
South Carolina State U	2,885	1,968	24	0	275	618
U of South Carolina	92,785	42,586	4,390	2,022	40,891	2,896
Private, total	2,559	1,895	0	0	457	207
Benedict College	634i	552i	0i	0i	82i	0i
Claflin College	1,403	1,028	0	0	375	0
Furman University	522	315	0	0	0	207
South Dakota, total	25,140	11,702	8,355	495	2,647	1,941
Public, total	25,140	11,702	8,355	495	2,647	1,941
SD Sch of Mines & Tech	4,550	3,221	493	52	774	10
South Dakota State U	15,631	5,812	6,994	443	1,294	1,088
U of South Dakota	4,959	2,669	868	0	579	843
Tennessee, total	346,466	207,822	36,615	19,995	54,066	27,968
Public, total	195,619	86,180	36,499	15,919	41,003	16,018
East Tennessee State U	3,152	1,368	88	0	92	1,604
Middle Tennessee State U	297	127	0	7	163	0
Tennessee State U	9,329	7,978	495	85	771	0
Tennessee Tech U	9,661	1,065	4,243	2,492	1,849	12
The University of Memphis	22,486	5,849	4,497	784	9,831	1,525
U Tenn Agricultural Inst	33,617	7,564	15,348	1,905	7,248	1,552
U of Tenn Space Institute	7,212	3,177	777	808	2,155	295
U of Tennessee, Chattanooga	1,598	287	778	0	486	47
U of Tennessee, Knoxville	64,754	35,359	8,611	4,541	12,941	3,302
U of Tennessee, Martin	3	0	0	0	0	3
U of Tennessee, Memphis	43,510	23,406	1,662	5,297	5,467	7,678
Private, total	150,847	121,642	116	4,076	13,063	11,950
Fisk University	2,909	2,909	0	0	0	0
Knoxville College	0	0	0	0	0	0
Le Moyne-Owen Coll	1,451	1,404	12	35	0	0
Meharry Medical College	11,212e	11,004e	0	0	0	208e
Southern Col of Optometry	61	0	0	5	55	1
Vanderbilt University	135,214	106,325	104	4,036	13,008	11,741
Texas, total	1,698,363	909,528	179,491	140,196	289,879	179,269
Public, total	1,424,413	754,300	172,513	120,852	256,247	120,501
Lamar University	3,051	2,307	654	14	55	21
Prairie View A&M U	9,952	9,612	194	146	0	0
Sam Houston State U	4,532	2,527	1,539	196	270	0
Southwest Texas St Univ	3,299	1,116	1,066	0	660	457

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Texas, continued:						
Public, continued:						
Stephen F Austin St U	4,213	1,125	114	383	1,721	870
Sul Ross State University	602	156	365	0	0	81
Tarleton State University	3,954	1,483	186	0	2,028	257
Texas A&M U-Commerce	361	122	239	0	0	0
Texas A&M Univ Kingsville	7,317	1,874	688	268	3,022	1,465
Texas A&M University	393,720	144,938	90,685	33,674	117,593	6,830
Texas Southern U	2,690	2,504	2	152	32	0
Texas Tech University	53,126	17,481	15,896	5,549	11,466	2,734
Texas Woman's University	2,359	1,485	597	277	0	0
U North TX Health Sci Ctr	8,921	5,645	456	553	1,379	888
U TX Arlington	19,075	11,294	1,833	2,642	3,306	0
U TX Austin	244,843	165,082	15,094	31,326	28,445	4,896
U TX Dallas	15,211	8,115	1,538	981	3,346	1,231
U TX El Paso	14,092	10,758	1,483	776	1,075	0
U TX Hlth Sci Ctr San Ant	85,407	55,004	6,638	10,845	8,138	4,782
U TX MD Anderson Cnrc	141,260	63,074	0	0	48,260	29,926
U TX Med Br Galveston	86,488	48,588	11,506	5,319	10,341	10,734
U TX SW Med Ctr Dallas	153,711	97,200	5,601	13,926	839	36,145
U TX San Antonio	7,220	5,112	1,868	0	240	0
U of Houston, Clear Lake	1,691	1,266	66	166	193	0
U of TX Pan American	1,664	1,233	327	0	33	71
UT-Houston Hlth Sci Ctr	101,993	70,446	818	11,106	6,626	12,997
University of Houston	42,297	22,018	9,249	1,707	5,428	3,895
University of North Texas	8,813	2,621	1,548	840	1,703	2,101
West Texas A&M U	2,551	114	2,263	6	48	120
Private, total	273,950	155,228	6,978	19,344	33,632	58,768
Abilene Christian Univ	330	162	0	31	137	0
Baylor Col of Dentistry	2,359	1,337	163	130	660	69
Baylor Col of Medicine	216,528	110,610	3,407	16,588	30,777	55,146
Baylor University	2,032	522	586	75	390	459
Jarvis Christian College	55	55	0	0	0	0
Rice University	41,067	34,772	2,297	1,435	0	2,563
Southern Methodist U	7,964	4,836	373	692	1,581	482
St. Mary's University	0	0	0	0	0	0
Texas Christian U	3,125	2,493	152	393	87	0
University of Dallas	490	441	0	0	0	49
Wiley College	0	0	0	0	0	0
Utah, total	249,147	165,319	17,556	13,502	42,561	10,209
Public, total	237,184	155,625	17,280	12,751	41,503	10,025
University of Utah	142,956	100,722	856	10,007	23,498	7,873
Utah State University	94,228	54,903	16,424	2,744	18,005	2,152
Private, total	11,963	9,694	276	751	1,058	184
Brigham Young University	11,963	9,694	276	751	1,058	184
Vermont, total	57,832	31,460	2,648	5,513	11,920	6,291
Public, total	57,832	31,460	2,648	5,513	11,920	6,291
University of Vermont	57,832	31,460	2,648	5,513	11,920	6,291
Virginia, total	490,695	288,634	49,343	46,173	76,938	29,607
Public, total	457,401	271,066	49,292	35,993	76,164	24,886
Col of William & Mary	25,966	11,097	2,963	571	10,790	545
George Mason University	22,543	17,268	1,155	210	606	3,304
James Madison University	1,568	722	140	0	0	706
Norfolk State University	2,524	2,442	82	0	0	0

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

Page 13 of 14

State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Virginia, continued:						
Public, continued:						
Old Dominion University	20,150	12,346	3,858	1,974	1,972	0
Radford University	273	103	109	0	0	61
University of Virginia	133,049	93,328	4,159	12,400	11,810	11,352
VA Polytech Inst & St U	167,118	82,734	32,883	12,132	35,379	3,990
Virginia Commonwealth U	80,538	48,167	3,440	8,478	15,552	4,901
Virginia Military Inst	334	67	3	213	24	27
Virginia State University	3,338	2,792	500	15	31	0
Private, total	33,294	17,568	51	10,180	774	4,721
Eastern VA Med School	21,672	9,449	51	7,448	110	4,614
Hampton University	7,140	6,801	0	0	339	0
Institute of Textile Tech	2,776	0	0	2,650	126	0
University of Richmond	1,035	781	0	82	172	0
Virginia Union University	671	537	0	0	27	107
Washington, total	534,410	384,074	13,119	41,838	76,678	18,701
Public, total	533,966	384,016	13,119	41,838	76,292	18,701
E Washington Univ	2,445e	804e	322i	219i	379i	721i
U of Washington	432,383	336,748	9,314	38,370	40,182	7,769
W Washington Univ	3,716	1,954	181	91	1,301	189
Washington State U	95,422	44,510	3,302	3,158	34,430	10,022
Private, total	444	58	0	0	386	0
Whitman College	444	58	0	0	386	0
West Virginia, total	63,446	25,301	3,053	4,547	26,525	4,020
Public, total	62,694	25,030	3,038	4,547	26,099	3,980
Bluefield State College	15	0	0	0	0	15
Fairmont State College	27	20	0	0	2	5
Marshall University	25	25	0	0	0	0
WV Sch of Osteo Med	146	0	0	0	146	0
West Virginia State Col	119	0	84	0	0	35
West Virginia University	62,362	24,985	2,954	4,547	25,951	3,925
Private, total	752	271	15	0	426	40
Salem-Tekyo University	752	271	15	0	426	40
Wisconsin, total	535,775	300,185	44,177	20,210	110,606	60,597
Public, total	471,287	252,633	43,456	15,414	104,565	55,219
U WI Eau Claire	613	395	60	30	38	90
U WI Green Bay	491	238	49	2	80	122
U WI La Crosse	1,185	562	4	278	0	341
U WI Madison	443,695	240,513	38,627	14,371	97,481	52,703
U WI Milwaukee	20,807	8,936	4,192	554	6,039	1,086
U WI Oshkosh	636	268	68	20	162	118
U WI Parkside	334	119	81	0	91	43
U WI River Falls	242	69	52	23	23	75
U WI Stevens Point	1,112	306	107	9	145	545
U WI Stout	1,386	986	102	11	287	0
U WI Superior	383	96	0	106	85	96
U WI Whitewater	403	145	114	10	134	0
Private, total	64,488	47,552	721	4,796	6,041	5,378
Marquette University	6,763	3,510	703	1,641	399	510
Medical Col of Wisconsin	56,021	43,831	2	1,692	5,642	4,854
Milwaukee School of Eng	1,704	211	16	1,463	0	14
Wyoming, total	48,500	17,806	5,366	3,114	21,275	939
Public, total	48,500	17,806	5,366	3,114	21,275	939
University of Wyoming	48,500	17,806	5,366	3,114	21,275	939

See explanatory information and SOURCE at end of table.

Table B-29. R&D expenditures at universities and colleges, by State, control, and source of funds: fiscal year 1998

[Dollars in thousands]

Page 14 of 14

State, control, and institution	Total	Federal Government	State and local governments	Industry	Institutional funds	All other sources
Guam, total	2,819	2,206	0	0	19	594
Public, total	2,819	2,206	0	0	19	594
University of Guam	2,819	2,206	0	0	19	594
Puerto Rico, total	86,622	44,232	22,086	5,339	12,865	2,100
Public, total	80,970	39,206	22,053	5,339	12,412	1,960
U PR Mayaguez	51,181	21,903	21,975	2,701	2,800	1,802
U PR Med Sci Campus	19,830	11,843	57	2,548	5,382	0
U PR Rio Piedras	9,959	5,460	21	90	4,230	158
Private, total	5,652	5,026	33	0	453	140
Ponce School of Medicine	2,953i	2,757i	0i	0i	56i	140i
Pont Catholic U of PR	111	78	33	0	0	0
U Ctrl Del Caribe Esc Med	2,588i	2,191i	0i	0i	397i	0i
Virgin Islands, total	4,828	2,428	2,250	150	0	0
Public, total	4,828	2,428	2,250	150	0	0
U of the Virgin Islands	4,828e	2,428e	2,250e	150e	0	0

NOTES: Because of rounding, detail may not add to totals.

Beginning in fiscal year 1998, this table reports data for all academic institutions. In prior years this table reported on doctorate-granting institutions only.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-30. R&D expenditures at doctorate-granting institutions, by geographic division,
State, and science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 1 of 2

Division and State	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Total	25,341,760	3,977,316	2,375,333	1,575,448	1,032,989	14,411,611	426,566	1,096,247	446,250
New England	2,045,003	324,825	232,084	181,992	70,283	1,010,153	36,917	108,097	80,652
Connecticut	402,671	32,218	23,848	11,680	6,149	306,891	8,915	10,360	2,610
Maine	33,106	4,999	1,941	10,269	193	14,276	318	1,110	0
Massachusetts	1,322,092	260,875	191,308	108,601	48,178	537,152	16,866	86,412	72,700
New Hampshire	117,323	12,653	5,369	26,402	2,227	61,884	2,951	5,038	799
Rhode Island	111,979	12,786	8,840	24,477	12,781	38,935	7,369	5,141	1,650
Vermont	57,832	1,294	778	563	755	51,015	498	36	2,893
Middle Atlantic	3,699,480	520,465	314,692	143,921	185,300	2,242,029	85,075	177,206	30,792
New Jersey	484,260	88,439	54,218	33,143	26,209	225,819	13,157	33,978	9,297
New York	1,881,994	197,795	183,446	81,461	77,661	1,237,340	42,653	57,302	4,336
Pennsylvania	1,333,226	234,231	77,028	29,317	81,430	778,870	29,265	85,926	17,159
East North Central	3,659,797	654,495	325,962	111,422	142,987	2,054,543	75,123	228,634	66,631
Illinois	1,026,399	158,113	93,090	37,336	81,231	542,995	19,336	48,786	45,512
Indiana	424,722	80,573	56,969	6,147	14,773	211,468	10,640	35,842	8,310
Michigan	876,375	158,969	68,945	28,082	16,335	506,914	16,023	74,084	7,023
Ohio	805,015	194,461	62,957	11,668	18,565	467,397	10,590	35,413	3,964
Wisconsin	527,286	62,379	44,001	28,189	12,083	325,769	18,534	34,509	1,822
West North Central	1,676,601	211,553	93,529	47,869	41,859	1,172,401	20,937	67,622	20,831
Iowa	357,927	62,280	24,758	4,189	12,049	224,387	3,273	21,424	5,567
Kansas	211,465	37,254	18,621	9,751	2,723	121,893	2,009	6,838	12,376
Minnesota	360,629	37,606	17,422	10,824	12,250	261,366	6,930	14,231	0
Missouri	478,295	41,263	20,027	6,453	12,641	373,188	6,950	16,634	1,139
Nebraska	186,200	20,920	5,682	11,980	1,447	139,442	1,313	5,398	18
North Dakota	56,945	9,464	4,860	1,598	680	36,778	457	1,675	1,433
South Dakota	25,140	2,766	2,159	3,074	69	15,347	5	1,422	298
South Atlantic	4,758,501	870,809	465,197	320,255	266,139	2,494,763	74,105	208,422	58,811
Delaware	69,896	23,408	9,466	8,180	5,474	17,180	1,439	4,749	0
District of Columbia	227,636	15,003	15,945	408	15,888	148,697	2,584	14,294	14,817
Florida	705,197	98,886	91,000	81,858	17,228	358,204	23,388	29,448	5,185
Georgia	794,691	197,460	55,688	34,323	46,993	398,700	17,745	40,877	2,905
Maryland	1,318,062	291,560	189,317	83,934	123,646	558,100	5,476	46,486	19,543
North Carolina	859,094	94,004	43,430	35,434	24,140	608,864	8,341	42,128	2,753
South Carolina	238,872	43,700	17,424	14,482	14,020	122,058	3,341	11,693	12,154
Virginia	482,520	87,865	39,998	59,288	17,802	248,590	11,320	17,140	517
West Virginia	62,533	18,923	2,929	2,348	948	34,370	471	1,607	937
East South Central	1,089,453	157,828	62,595	31,478	26,306	730,151	16,987	27,740	36,368
Alabama	402,610	54,231	16,812	8,156	11,844	280,386	6,605	4,629	19,947
Kentucky	200,682	28,478	7,315	303	1,462	148,739	1,401	5,724	7,260
Mississippi	145,717	26,716	12,841	7,352	3,745	84,355	490	4,145	6,073
Tennessee	340,444	48,403	25,627	15,667	9,255	216,671	8,491	13,242	3,088
West South Central	2,326,195	355,125	189,388	158,774	69,128	1,421,642	24,629	70,468	37,041
Arkansas	111,173	11,576	4,983	2,632	1,489	86,010	457	3,829	197
Louisiana	340,741	50,268	18,086	23,132	7,124	210,731	1,085	11,186	19,129
Oklahoma	206,627	31,793	19,433	24,655	5,955	95,291	8,410	15,290	5,800
Texas	1,667,654	261,488	146,886	108,355	54,560	1,029,610	14,677	40,163	11,915

See explanatory information and SOURCE at end of table.

**Table B-30. R&D expenditures at doctorate-granting institutions, by geographic division,
State, and science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 2 of 2

Division and State	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Mountain	1,638,401	314,340	213,594	176,432	53,582	718,595	30,132	56,123	75,603
Arizona	405,999	75,292	92,007	16,599	13,578	172,017	8,227	24,194	4,085
Colorado	483,388	63,487	63,800	89,976	13,624	220,777	12,986	7,647	11,091
Idaho	68,983	10,044	3,814	6,181	390	46,123	676	1,755	0
Montana	72,425	7,192	7,463	1,031	2,452	46,258	39	3,672	4,318
Nevada	83,888	4,925	7,906	25,207	555	28,223	1,148	6,371	9,553
New Mexico	226,071	88,956	16,468	11,732	7,809	57,075	4,439	6,244	33,348
Utah	249,147	58,438	17,054	15,319	14,468	128,465	2,258	5,592	7,553
Wyoming	48,500	6,006	5,082	10,387	706	19,657	359	648	5,655
Pacific	4,361,707	561,414	474,237	397,372	176,685	2,501,862	61,303	149,739	39,095
Alaska	75,606	3,957	14,507	33,814	98	19,562	0	3,668	0
California	3,301,972	484,154	389,415	212,687	151,382	1,872,290	42,891	117,871	31,282
Hawaii	148,007	5,215	26,192	48,594	370	57,016	1,070	4,002	5,548
Oregon	308,317	21,490	17,054	39,596	15,423	199,264	7,012	8,367	111
Washington	527,805	46,598	27,069	62,681	9,412	353,730	10,330	15,831	2,154
Outlying Areas	86,622	6,462	4,055	5,933	720	65,472	1,358	2,196	426

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
United States, total	25,735,268	4,053,742	2,439,559	1,615,099	1,062,314	14,547,045	436,905	1,121,024	459,580
Public, total	17,391,022	2,854,912	1,550,035	1,275,232	602,855	9,604,887	326,127	863,368	313,606
Private, total	8,344,246	1,198,830	889,524	339,867	459,459	4,942,158	110,778	257,656	145,974
Alabama, total	442,196	64,212	19,380	8,168	11,989	305,744	6,605	6,151	19,947
Public, total	403,787	54,231	16,812	8,156	11,968	281,439	6,605	4,629	19,947
Alabama A&M University	14,143	2,099	2,271	33	243	8,062	0	15	1,420
Alabama State University	1,177	0	0	0	124	1,053	0	0	0
Auburn University	87,768	17,239	2,738	418	497	48,586	830	2,283	15,177
The University of Alabama	24,043	11,544	2,788	2,176	3,110	1,794	315	1,775	541
U of Alabama Birmingham	227,720	8,345	2,449	15	308	211,039	5,403	161	0
U of Alabama Huntsville	36,946	14,387	6,447	5,177	7,008	997	15	106	2,809
U of South Alabama	11,990	617	119	337	678	9,908	42	289	0
Private, total	38,409	9,981	2,568	12	21	24,305	0	1,522	0
Oakwood College	845	0	430	2	21	392	0	0	0
Selma University	210e	150e	0e	10e	0e	50e	0e	0e	0e
Talladega College	0e	0i	0i	0i	0i	0i	0i	0i	0i
Tuskegee University	37,354	9,831	2,138	0	0	23,863	0	1,522	0
Alaska, total	75,854	3,957	14,507	33,850	98	19,769	0	3,673	0
Public, total	75,854	3,957	14,507	33,850	98	19,769	0	3,673	0
U of Alaska Fairbanks	75,606	3,957i	14,507i	33,814i	98i	19,562i	0i	3,668i	0i
U of Alaska, Anchorage	0e	0i	0i	0i	0i	0i	0i	0i	0i
U of Alaska, SE	248	0	0	36	0	207	0	5	0
Arizona, total	405,999	75,292	92,007	16,599	13,578	172,017	8,227	24,194	4,085
Public, total	405,999	75,292	92,007	16,599	13,578	172,017	8,227	24,194	4,085
Arizona State University	92,019	32,745	19,916	5,154	4,096	12,306	5,960	8,564	3,278
Northern Arizona U	11,652	153	843	1,378	68	6,086	62	2,422	640
University of Arizona	302,328	42,394	71,248	10,067	9,414	153,625	2,205	13,208	167
Arkansas, total	116,778	11,700	5,264	2,798	1,506	90,188	457	4,012	853
Public, total	116,705	11,700	5,231	2,798	1,506	90,148	457	4,012	853
Arkansas State University	962	73	83	0	1	686	0	79	40
Arkansas Tech Univ	419	51	9	166	2	173	0	18	0
U Arkansas Main	71,686	11,576	4,983	2,632	1,489	46,523	457	3,829	197
U Arkansas Medical Sci	39,487	0	0	0	0	39,487	0	0	0
U Arkansas Pine Bluff	4,151	0	156	0	14	3,279	0	86	616
Private, total	73	0	33	0	0	40	0	0	0
Philander Smith College	73e	0	33e	0	0	40e	0	0	0
California, total	3,344,740	496,884	393,367	222,811	153,022	1,880,116	46,265	120,828	31,447
Public, total	2,439,655	304,390	236,980	182,252	66,949	1,477,510	35,407	106,312	29,855
CA St U Chico	3,376	371	4	0	520	351	0	2,130	0
CA St U Long Beach	6,252i	4,702i	470i	540i	0i	493i	32i	0i	15i
Calif Polytechnic	5,972	4,472	281	0	50	1,130	39	0	0
Calif State San Bernardin	390	0	25	90	184	11	15	65	0
Calif State, Fullerton	1,749e	353i	298i	159i	126i	540i	48i	178i	47i
Calif State, Northridge	2,175	242	872	9	91	759	71	102	29
Humboldt State University	4,417	992	0	397	198	2,778	0	26	26
San Diego St University	41,915	4,117	2,507	2,270	998	19,023	4,650	3,736	4,614
San Jose State University	21,005e	5,770e	1,881e	9,427e	328e	598e	2,938e	63e	0e
Sonoma State University	194	0	98	12	3	81	0	0	0
U CA Berkeley	420,435	99,697	76,164	5,755	5,784	174,403	7,449	35,559	15,624
U CA Davis	288,796	27,726	13,053	6,547	3,558	232,976	1,558	3,276	102
U CA Irvine	130,415	11,658	17,542	2,249	4,730	86,093	2,658	4,457	1,028
U CA Los Angeles	447,367	42,967	36,402	8,060	10,989	313,422	7,374	25,580	2,573
U CA Riverside	79,775	8,473	6,516	9,394	771	49,242	2,364	2,122	893
U CA San Diego	418,790	46,172	37,948	100,882	20,387	199,279	3,552	9,302	1,268
U CA San Francisco	379,970	0	0	0	0	379,970	0	0	0
U CA Santa Barbara	96,034	34,977	18,068	16,853	9,204	7,602	1,420	7,451	459
U CA Santa Cruz	56,533	2,623	22,681	11,390	2,050	8,759	1,239	7,618	173

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
California, continued:									
Public, continued:									
US Naval Postgrad School	34,095	9,078i	2,170i	8,218i	6,978i	0i	0i	4,647i	3,004i
Private, total	905,085	192,494	156,387	40,559	86,073	402,606	10,858	14,516	1,592
Bidla University	0	0	0	0	0	0	0	0	0
C R Drew U of Med & Sci	17,205e	0e	0e	0e	0e	17,205e	0e	0e	0e
CA Inst of Integral Stu	0	0	0	0	0	0	0	0	0
CA Sch Prof Psy Brk/Alm	193	0	0	0	0	0	193	0	0
CA Sch Prof Psy Fresno	1,777	0	0	0	0	0	1,777	0	0
CA Sch Prof Psy L.A.	149	0	0	0	0	0	149	0	0
CA Sch Prof Psy S Diego	1,020	0	0	0	0	0	1,020	0	0
California Inst of Tech	185,066	35,630	86,036	18,285	11,357	32,425	0	1,333	0
Claremont Graduate Sch	401	0	0	0	78	0	102	221	0
Fuller Theological Sem	27e	0	0	0	0	0	27e	0	0
Golden Gate University	0	0	0	0	0	0	0	0	0
Loma Linda University	12,788	0	0	0	0	12,788	0	0	0
Occidental College	2,220e	530i	335i	13i	107i	1,103i	16i	88i	28i
Pepperdine University	0	0	0	0	0	0	0	0	0
Pitzer College	260	0	0	0	0	0	51	209	0
Pomona College	1,010	0	158	17	33	475	196	96	35
Santa Clara University	2,189i	1,198i	140i	0i	98i	308i	8i	437i	0i
Stanford University	410,309	116,364	58,555	8,025	22,439	195,377	3,834	5,715	0
U of Southern California	268,806	38,686	11,068	14,202	51,936	141,502	3,483	6,404	1,525
US International U	0	0	0	0	0	0	0	0	0
University of San Diego	484	80i	54i	17i	25i	289i	2i	13i	4i
University of the Pacific	886	6	41	0	0	839	0	0	0
Western U of Hlth Sci	295	0	0	0	0	295	0	0	0
Colorado, total	489,419	64,643	65,110	90,421	13,755	223,427	13,007	7,955	11,101
Public, total	478,495	62,385	61,267	90,313	13,556	222,735	11,308	5,840	11,091
Colorado School of Mines	20,681	14,296	3,784	995	1,561	0	0	45	0
Colorado State University	140,179	17,998	10,450	14,656	3,283	77,765	3,916	2,143	9,968
Fort Lewis College	599	0	432	0	0	43	0	124	0
U of Colorado HSC	121,624	0	0	0	0	121,624	0	0	0
U of Colorado, Boulder	186,211	27,923	45,044	74,256	8,117	19,933	7,084	3,281	573
U of Colorado, Col Spgs	1,137	448	187	4	144	190	119	45	0
U of Colorado, Denver	2,231	564	138	65	332	388	145	49	550
U of Northern Colorado	736e	0	434	0	0	254	23	25	0
U of Southern Colorado	824	150	316	0	84	252	21	1	0
U.S. Air Force Academy	4,163	1,006	482	335	35	2,236	0	69	0
W State Coll, Colorado	110	0	0	2	0	50	0	58	0
Private, total	10,924	2,258	3,843	108	199	692	1,699	2,115	10
Colorado College	211	0	19	108	12	16	0	56	0
Regis University	124	0	61	0	0	53	0	0	10
University of Denver	10,589	2,258	3,763	0	187	623	1,699	2,059	0
Connecticut, total	403,961	33,005	23,947	11,685	6,237	307,104	8,918	10,412	2,653
Public, total	134,748	24,466	4,253	9,224	1,515	79,719	5,189	7,772	2,610
US Coast Guard Academy	300	300	0	0	0	0	0	0	0
University of Connecticut	134,448	24,166	4,253	9,224	1,515	79,719	5,189	7,772	2,610
Private, total	269,213	8,539	19,694	2,461	4,722	227,385	3,729	2,640	43
Connecticut College	432e	100i	99i	5i	26i	161i	3i	21i	17i
University of Hartford	397	139	43	0	100	14	0	101	0
University of New Haven	558e	387i	0i	0i	62i	52i	0i	31i	26i
Wesleyan University	5,146	0	2,155	318	97	1,755	637	184	0
Yale University	262,680	7,913	17,397	2,138	4,437	225,403	3,089	2,303	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Delaware, total	72,779	23,408	9,888	8,180	5,486	19,510	1,491	4,779	37
Public, total	72,779	23,408	9,888	8,180	5,486	19,510	1,491	4,779	37
Delaware State University	2,883	0	422	0	12	2,330	52	30	37
University of Delaware	69,896	23,408	9,466	8,180	5,474	17,180	1,439	4,749	0
District of Columbia, total	232,922	15,270	16,652	540	16,137	149,812	3,339	16,204	14,968
Public, total	3,074	267	707	132	249	1,032	0	536	151
University of DC	3,074	267	707	132	249	1,032	0	536	151
Private, total	229,848	15,003	15,945	408	15,888	148,780	3,339	15,668	14,817
American University	3,453	0	967	0	283	1,279	151	773	0
Catholic U of America	9,418	1,285	5,094	0	0	1,080	1,444	487	28
Gallaudet University	2,212	0	0	0	0	83	755	1,374	0
George Washington U	74,481	9,708	1,082	114	13,787	26,872	867	7,303	14,748
Georgetown University	116,611	0	5,124	235	139	106,347	70	4,663	33
Howard University	23,673	4,010	3,678	59	1,679	13,119	52	1,068	8
Florida, total	712,704	99,212	91,223	82,222	19,554	359,742	23,502	29,872	7,377
Public, total	564,685	94,700	88,149	48,665	18,526	266,055	17,112	25,885	5,593
Florida A&M University	19,066	3,248	2,646	1,581	1,098	10,267	20	206	0
Florida Atlantic U	14,265	8,643	340	1,554	1,031	404	1,342	951	0
Florida International U	17,880	8,906	1,564	450	1,131	2,277	794	2,758	0
Florida State University	94,463	3,170	50,612	15,775	3,825	10,423	4,027	6,097	534
U of Central Florida	35,530	6,383	9,795	8,353	670	854	339	4,641	4,495
U of South Florida	104,325	15,728	1,355	14,243	245	63,616	7,004	2,134	0
Univ of West Florida	4,294	1	63	0	2,272	988	114	416	440
University of Florida	274,862	48,621	21,774	6,709	8,254	177,226	3,472	8,682	124
Private, total	148,019	4,512	3,074	33,557	1,028	93,687	6,390	3,987	1,784
Bethune Cookman College	566	0	0	8	0	550	0	8	0
Embry-Riddle Aero Univ	2,647	325	160	356	54	0	0	0	1,752
Florida Inst of Tech	5,848	2,372	782	1,081	643	647	323	0	0
Nova Southeastern U	1,986	0	0	1,045	0	105	791	45	0
University of Miami	136,972	1,815	2,132	31,067	331	92,385	5,276	3,934	32
Georgia, total	802,023	197,501	57,091	34,323	47,068	403,097	18,366	41,282	3,295
Public, total	552,608	172,745	37,406	26,136	41,638	216,145	16,357	39,380	2,801
Albany State University	1,019	41	4	0	68	499	0	112	295
Fort Valley State U	2,989	0	0	0	0	2,696	0	293	0
Georgia Institute of Tech	259,233	165,472	21,968	14,505	33,732	15,886	2,920	2,595	2,155
Georgia State University	31,153	0	5,036	402	947	8,139	7,412	8,868	349
Kennesaw State Univ	132	0	132	0	0	0	0	0	0
Medical Col of Georgia	39,806	0	0	0	0	39,806	0	0	0
Savannah State Univ	331	0	205	0	0	124	0	0	21
University of Georgia	217,945	7,232	10,061	11,229	6,891	148,995	6,025	27,512	0
Private, total	249,415	24,756	19,685	8,187	5,430	186,952	2,009	1,902	494
Clark Atlanta University	29,637	5,120	5,427	8,187	4,460	5,445	0	998	0
Emory University	172,884	0	5,989	0	908	163,709	1,383	895	0
Inst Paper Sci and Tech	15,424e	8,075e	5,933e	0e	0e	1,416e	0e	0e	0e
Mercer University	14,995	11,561	1,274	0	55	2,091	5	9	0
Morehouse College	592e	0	84e	0	0	192e	315e	0	1e
Morehouse School of Med	13,614	0	0	0	0	13,213	0	0	401
Morris Brown College	525e	0	192e	0	0	0	241e	0	92e
Spelman College	1,744	0	786	0	7	886	65	0	0
Hawaii, total	148,007	5,215	26,192	48,594	370	57,016	1,070	4,002	5,548
Public, total	148,007	5,215	26,192	48,594	370	57,016	1,070	4,002	5,548
Univ of Hawaii Manoa	148,007	5,215	26,192	48,594	370	57,016	1,070	4,002	5,548

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Idaho, total	72,395	10,158	3,985	7,645	478	47,270	724	1,964	171
Public, total	72,395	10,158	3,985	7,645	478	47,270	724	1,964	171
Boise State University	3,412	114	171	1,464	88	1,147	48	209	171
Idaho State University	10,016	1,166	1,983	1,069	36	4,936	0	826	0
University of Idaho	58,967	8,878	1,831	5,112	354	41,187	676	929	0
Illinois, total	1,045,800	161,490	97,171	39,435	84,365	546,676	19,730	50,669	46,264
Public, total	556,000	113,009	45,343	31,075	77,141	216,094	10,812	35,211	27,315
Chicago State University	713	0	0	0	0	0	0	0	713
Illinois State University	4,688e	0	387e	20e	1,419e	1,279e	43e	1,540e	0
Northeastern Illinois U	186	0	0	17	0	107	23	0	39
Northern Illinois U	12,495	525	2,278	861	327	2,104	254	6,146	0
S Illinois U Edwardsville	966	327	265	122	16	116	67	53	0
Sthrn IL U Carbondale	30,490	5,484	1,420	761	793	16,616	565	1,735	3,116
U of Illinois Urbana	338,841	90,994	29,100	25,602	68,802	82,599	6,114	18,833	16,797
University of IL Chicago	151,739	12,979	8,597	1,735	2,735	110,518	3,445	5,080	6,650
Western Illinois U	15,882	2,700	3,296	1,957	3,049	2,755	301	1,824	0
Private, total	489,800	48,481	51,828	8,360	7,224	330,582	8,918	15,458	18,949
Augustana College	58e	2i	15i	3i	3i	27i	3i	5i	0i
Bradley University	1,493	348	445	0	65	634	0	1	0
DePaul University	1,233	0	69	0	138	32	991	3	0
Finch U Hlth Sci Chicago	6,672e	0	0	0	0	6,264e	408e	0	0
Illinois Inst of Tech	14,013	5,495	5,028	0	310	3,121	59	0	0
Lake Forest College	103	0	60	0	1	42	0	0	0
Loyola U of Chicago	34,241	0	971	36	321	28,980	709	2,507	717
Midwestern University	1,840	0	0	0	0	1,840	0	0	0
Northwestern University	223,235	42,636	15,888	579	4,209	133,916	1,962	5,993	18,052
Rush University	55,277	0	0	0	0	52,378	2,899	0	0
University of Chicago	151,635	0	29,352	7,742	2,177	103,348	1,887	6,949	180
Indiana, total	425,293	80,692	57,302	6,147	14,892	211,468	10,640	35,842	8,310
Public, total	395,849	72,056	43,811	6,147	12,939	207,147	9,859	35,580	8,310
Ball State University	2,361	139	356	455	135	743	152	368	13
Indiana State University	5,255	193	50	316	0	159	0	4,537	0
Indiana University	171,754	3,628	21,275	1,762	4,117	110,220	7,210	15,629	7,913
Purdue University	216,479	68,096	22,130	3,614	8,687	96,025	2,497	15,046	384
Private, total	29,444	8,636	13,491	0	1,953	4,321	781	262	0
University of Notre Dame	28,873	8,517	13,158	0	1,834	4,321	781	262	0
Valparaiso University	571	119	333	0	119	0	0	0	0
Iowa, total	358,259	62,308	24,834	4,199	12,072	224,520	3,283	21,476	5,567
Public, total	357,511	62,280	24,758	4,189	12,049	223,971	3,273	21,424	5,567
Iowa State University	156,766	40,370	9,599	1,737	10,900	75,816	584	12,943	4,817
U of Iowa	199,063	21,888	15,049	1,680	1,149	148,007	2,689	7,851	750
U of Northern Iowa	1,682	22	110	772	0	148	0	630	0
Private, total	748	28	76	10	23	549	10	52	0
Grinnell College	332e	28i	76i	10i	23i	133i	10i	52i	0i
Maharishi U of Mgmt	0	0	0	0	0	0	0	0	0
U Osteo Med & Hlth Sci	416	0	0	0	0	416	0	0	0
Kansas, total	213,096	38,493	18,769	9,751	2,723	121,962	2,112	6,910	12,376
Public, total	213,096	38,493	18,769	9,751	2,723	121,962	2,112	6,910	12,376
Kansas State University	81,233	12,972	7,348	266	1,081	54,268	943	3,006	1,349
Pittsburg State U	1,631	1,239	148	0	0	69	103	72	0
University of Kansas	117,115	13,751	10,356	9,463	1,240	66,492	1,010	3,776	11,027
Wichita State University	13,117	10,531	917	22	402	1,133	56	56	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Kentucky, total	209,780	29,713	8,473	1,524	1,971	152,627	1,609	6,419	7,444
Public, total	209,591	29,713	8,473	1,524	1,971	152,627	1,420	6,419	7,444
Kentucky State University	713	0	0	0	61	652	0	0	0
Murray State University	2,043	1	99	586	0	1,324	28	5	0
University of Kentucky	161,346	25,174	5,386	215	1,248	117,731	961	3,371	7,260
University of Louisville	39,147	3,304	1,929	88	214	31,008	251	2,353	0
Western Kentucky Univ	6,342	1,234	1,059	635	448	1,912	180	690	184
Private, total	189	0	0	0	0	0	189	0	0
Spalding University	189	0	0	0	0	0	189	0	0
Louisiana, total	351,976	52,168	20,087	23,478	8,249	216,170	1,189	11,506	19,129
Public, total	258,555	46,402	16,632	23,232	7,751	143,648	1,096	10,723	9,071
Grambling State U	1,997	111	500	0	910	470	0	6	0
Louisiana St U, All Camp	208,928	35,605	13,540	22,684	2,927	124,209	729	8,223	1,011
Louisiana Tech University	7,659	3,237	323	3	521	622	5	6	2,942
Northeast Louisiana U	6,140	0	83	0	0	917	0	1,300	3,840
Southern U A&M All Camp	9,063	1,789	1,326	346	215	4,969	104	314	0
U of Southwestern LA	24,768	5,660	860	199	3,178	12,461	258	874	1,278
Private, total	93,421	5,766	3,455	246	498	72,522	93	783	10,058
Dillard University	175e	0e	175e	0e	0e	0e	0e	0e	0e
Tulane University	87,858	5,766	3,075	246	498	72,246	93	783	5,151
Xavier University of LA	5,388	0	205	0	0	276	0	0	4,907
Maine, total	35,265	5,036	2,469	10,636	350	14,967	415	1,281	111
Public, total	33,720	5,036	1,946	10,502	263	14,429	318	1,115	111
U of Maine	33,106	4,999	1,941	10,269	193	14,276	318	1,110	0
Univ of Southern Maine	614	37	5	233	70	153	0	5	111
Private, total	1,545	0	523	134	87	538	97	166	0
Bates College	682	0	267	134	47	155	69	10	0
Bowdoin College	474	0	91	0	1	342	0	40	0
Colby College	389	0	165	0	39	41	28	116	0
Maryland, total	1,330,170	295,543	190,231	84,350	126,558	559,085	5,476	46,535	22,392
Public, total	475,247	77,472	58,488	40,822	24,168	226,613	1,992	42,843	2,849
Bowie State University	4,511	0	0	0	2,026	197	0	0	2,288
Coppin State College	6	0	0	0	0	6	0	0	0
Morgan State University	3,981	2,617	188	196	320	660	0	0	0
Towson State University	959	0	56	0	220	122	0	0	561
U MD Baltimore County	18,155	6,152	7,394	0	615	2,282	462	1,250	0
U MD Biotechnology Inst	31,861	0	0	7,917	0	23,944	0	0	0
U MD College Park	223,190	67,267	50,105	8,331	20,641	33,772	1,530	41,544	0
U MD Ctr for Environ Sci	24,038	0	0	24,038	0	0	0	0	0
U MD Eastern Shore	2,265	70	75	120	0	2,000	0	0	0
U of MD Baltimore	143,321	0	0	0	0	143,321	0	0	0
US Naval Academy	2,651	1,366	670	220	346	0	0	49	0
Unif Svcs U of Hlth Sci	20,309	0	0	0	0	20,309	0	0	0
Private, total	854,923	218,071	131,743	43,528	102,390	332,472	3,484	3,692	19,543
Johns Hopkins U	853,620	216,973	131,662	43,528	102,284	332,458	3,484	3,688	19,543
Loyola College	1,303	1,098	81	0	106	14	0	4	0
Massachusetts, total	1,342,712	263,275	195,013	110,686	50,365	544,968	17,191	88,446	72,768
Public, total	208,719	25,072	29,778	12,867	13,155	113,593	5,221	7,815	1,218
Fitchburg State College	34	0	0	0	0	0	0	0	34
U MA Amherst	89,970	16,264	23,045	7,143	11,102	26,555	4,135	1,020	706
U MA Boston	11,491	67	467	1,385	7	2,306	653	6,311	295
U MA Dartmouth	4,902	1,245	599	809	1,321	851	59	18	0
U MA Lowell	19,372	7,496	5,667	3,530	725	931	374	466	183
U MA Worcester	82,950	0	0	0	0	82,950	0	0	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Massachusetts, continued:									
Private, total	1,133,993	238,203	165,235	97,819	37,210	431,375	11,970	80,631	71,550
Amherst College	1,573	0	544	75	22	805	34	93	0
Boston College	17,774	0	4,410	658	8,017	2,161	417	2,111	0
Boston University	130,054	14,969	12,897	3,473	3,782	83,544	2,271	1,110	8,008
Brandeis University	44,589	0	4,248	0	1,225	20,304	1,483	17,329	0
Clark University	2,147	1,095	605	0	33	189	171	54	0
College of the Holy Cross	430	0	209	0	48	102	71	0	0
Hampshire College	2,972	714	483	93	364	375	148	795	0
Harvard University	306,100	6,433	27,527	13,271	2,739	195,472	3,854	39,501	17,303
MA Col Phar Allied Hlth	89	0	0	0	0	89	0	0	0
MA Institute of Tech	413,098	178,664	100,899	15,900	17,059	42,744	0	11,627	46,205
Mount Holyoke College	1,033	0	376	163	115	379	0	0	0
New England Col Opt	1,734	0	0	0	0	1,734	0	0	0
Northeastern University	26,385	11,274	6,158	0	1,572	5,401	900	1,080	0
Smith College	1,295	0	66	173	81	535	440	0	0
Tufts University	92,130	5,935	4,037	73	783	73,437	2,168	5,697	0
Wellesley College	4,943e	0e	972e	0e	225e	2,696e	0e	1,050e	0e
Wentworth Inst of Tech	1,146	0	213	933	0	0	0	0	0
Williams College	1,853e	441 i	309 i	12 i	92 i	874 i	13 i	78 i	34 i
Woods Hole Oceanograph	75,011	12,016	0	62,995	0	0	0	0	0
Worcester Polytech Inst	9,637	6,662	1,282	0	1,053	534	0	106	0
Michigan, total	877,804	159,530	69,041	28,671	16,338	506,915	16,057	74,229	7,023
Public, total	875,124	158,899	67,632	28,532	16,311	506,836	16,036	74,043	6,835
Central Michigan U	0	0	0	0	0	0	0	0	0
Ferris State University	78	4	3	0	0	71	0	0	0
Grand Valley State U	892	24	96	589	3	1	34	145	0
Michigan State University	193,611	17,837	30,143	1,233	3,560	120,904	2,205	15,681	2,048
Michigan Tech University	26,522	16,959	1,827	1,563	305	5,324	0	200	344
Oakland University	7,272	1,833	755	0	121	4,180	7	0	376
University of Michigan	496,761	109,219	23,072	24,737	8,422	270,466	10,712	48,299	1,834
Wayne State University	138,456	10,633	10,777	2	1,018	104,460	2,980	6,373	2,213
Western Michigan U	11,532	2,390	959	408	2,882	1,430	98	3,345	20
Private, total	2,680	631	1,409	139	27	79	21	186	188
Andrews University	290	2	16	0	5	76	5	186	0
Kettering University	433	433	0	0	0	0	0	0	0
Lawrence Tech Univ	104	104	0	0	0	0	0	0	0
U of Detroit Mercy	1,853	92	1,393	139	22	3	16	0	188
Minnesota, total	364,503	38,434	17,789	11,361	13,183	261,961	6,930	14,845	0
Public, total	364,197	38,423	17,771	11,361	13,183	261,802	6,930	14,727	0
Minnesota State, Mankato	1,939	68	29	371	644	477	0	350	0
St. Cloud State Univ	1,935	760	338	166	289	118	0	264	0
University of Minnesota	360,323	37,595	17,404	10,824	12,250	261,207	6,930	14,113	0
Private, total	306	11	18	0	0	159	0	118	0
University of St. Thomas	306	11	18	0	0	159	0	118	0
Mississippi, total	152,683	26,911	13,164	7,352	4,051	90,497	490	4,145	6,073
Public, total	151,186	26,811	12,945	7,352	3,873	89,497	490	4,145	6,073
Alcorn State University	5,119	0	0	0	0	5,119	0	0	0
Jackson State University	6,111	695	1,521	757	1,896	1,024	0	17	201
Mississippi State U	100,410	22,862	2,842	4,060	1,537	62,253	160	3,506	3,190
Mississippi Valley St U	350	95	104	0	128	23	0	0	0
U Mississippi, All Camp	28,079	3,008	4,111	0	97	20,175	163	525	0
U Southern Mississippi	11,117	151	4,367	2,535	215	903	167	97	2,682
Private, total	1,497	100	219	0	178	1,000	0	0	0
Rust College	317	100	0	0	0	217	0	0	0
Tougaloo College	1,180	0	219	0	178	783	0	0	0

See explanatory information and SOURCE at end of table.

**Table B-31. R&D expenditures at universities and colleges, by State,
control, and science and engineering field: fiscal year 1998**

[Dollars in thousands]

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State, control, and institution	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Missouri, total	484,159	41,288	20,202	6,499	12,665	377,186	6,950	16,703	2,666
Public, total	186,272	31,886	11,260	2,366	3,436	114,982	5,961	14,141	2,240
Lincoln University	3,313	0i	0i	0i	0i	3,253i	0i	60i	0i
SW Missouri State Univ	1,797	25	102	46	8	666	0	9	941
Truman State University	754	0	73	0	16	79	0	0	586
U of Missouri Columbia	136,061	16,606	4,191	994	1,408	98,662	3,474	10,719	7
U of Missouri Kansas City	12,875	169	654	105	945	9,623	463	442	474
U of Missouri Rolla	21,740	15,086	4,068	1,221	919	444	2	0	0
U of Missouri St Louis	9,462	0	2,172	0	140	2,007	2,000	2,911	232
U of Missouri Sys Admn	270	0	0	0	0	248	22	0	0
Private, total	297,887	9,402	8,942	4,133	9,229	262,204	989	2,562	426
Forest Inst of Prof Psy	0	0	0	0	0	0	0	0	0
Kirksville Col Osteo Med	509	0	0	0	0	509	0	0	0
Saint Louis University	26,943	11	0	713	2	26,000	25	17	175
U of Health Sci (MO)	885	0i	0i	0i	0i	885i	0i	0i	0i
Washington University	269,550	9,391	8,942	3,420	9,227	234,810	964	2,545	251
Montana, total	72,425	7,192	7,463	1,031	2,452	46,258	39	3,672	4,318
Public, total	72,425	7,192	7,463	1,031	2,452	46,258	39	3,672	4,318
Montana St U Bozeman	52,292	7,192	6,682	800	607	32,362	0	2,286	2,363
The University of Montana	20,133	0	781	231	1,845	13,896	39	1,386	1,955
Nebraska, total	186,200	20,920	5,682	11,980	1,447	139,442	1,313	5,398	18
Public, total	171,189	20,920	5,526	11,950	1,447	124,684	1,289	5,355	18
U of NE Med Ctr Omaha	50,453	0	0	0	0	50,453	0	0	0
U of Nebraska Lincoln	118,857e	20,029i	5,467 i	11,863i	1,251i	74,011i	1,177i	5,041i	18i
U of Nebraska, Omaha	1,879	891	59	87	196	220	112	314	0
Private, total	15,011	0	156	30	0	14,758	24	43	0
Creighton University	15,011	0	156	30	0	14,758	24	43	0
Nevada, total	83,888	4,925	7,906	25,207	555	28,223	1,148	6,371	9,553
Public, total	83,888	4,925	7,906	25,207	555	28,223	1,148	6,371	9,553
Desert Research Institute	21,500	0	0	14,400	0	4,000	0	3,100	0
U of Nevada Las Vegas	16,912	933	5,308	6,331	424	2,462	1	1,122	331
U of Nevada Reno	45,476	3,992	2,598	4,476	131	21,761	1,147	2,149	9,222
New Hampshire, total	117,323	12,653	5,369	26,402	2,227	61,884	2,951	5,038	799
Public, total	52,359	5,520	1,837	25,772	833	11,906	1,819	4,381	291
U of New Hampshire	52,359	5,520	1,837	25,772	833	11,906	1,819	4,381	291
Private, total	64,964	7,133	3,532	630	1,394	49,978	1,132	657	508
Dartmouth College	64,964	7,133	3,532	630	1,394	49,978	1,132	657	508
New Jersey, total	484,642	88,439	54,218	33,144	26,565	225,823	13,157	33,978	9,318
Public, total	352,526	45,622	23,388	23,200	19,866	206,197	7,153	17,867	9,233
NJ Inst of Technology	40,982	19,714	3,127	8,532	2,914	0	0	169	6,526
Rutgers the State U NJ	197,053	25,908	20,261	14,668	16,952	91,706	7,153	17,698	2,707
U Med & Dent NJ	114,491	0	0	0	0	114,491	0	0	0
Private, total	132,116	42,817	30,830	9,944	6,699	19,626	6,004	16,111	85
Fairleigh Dickinson U	394	0i	3i	0i	6i	95i	26i	200i	64i
Monmouth University	382	0	0	1	356	4	0	0	21
Princeton University	115,996	35,805	28,114	8,816	6,284	17,843	5,978	13,156	0
Seton Hall University	2,400	0	716	0	0	1,684	0	0	0
Stevens Inst of Tech	12,944	7,012	1,997	1,127	53	0	0	2,755	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

Page 8 of 14

State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
New Mexico, total	228,623	89,349	17,966	12,053	7,885	57,269	4,509	6,244	33,348
Public, total	228,623	89,349	17,966	12,053	7,885	57,269	4,509	6,244	33,348
NM Inst Mining & Tech	22,791	15,526	2,012	4,868	176	133	76	0	0
New Mexico Highlands U	2,552i	393i	1,498i	321i	76i	194i	70i	0i	0i
New Mexico State Univ	77,370	46,187	3,938	5,053	4,527	16,330	413	798	124
University of New Mexico	125,910	27,243	10,518	1,811	3,106	40,612	3,950	5,446	33,224
New York, total	1,924,667	206,926	196,642	83,699	80,548	1,247,317	45,207	59,173	5,155
Public, total	485,690	59,136	62,479	30,573	19,624	267,340	19,300	24,563	2,675
CUNY Brooklyn College	3,132e	0	1,298e	106e	564e	347e	729e	88e	0
CUNY City College	21,147	7,961	8,273	165	950	3,515	134	149	0
CUNY Col Staten Island	1,014	85	375	21	109	400	9	15	0
CUNY H Lehman Col	1,334i	0i	315i	37i	202i	245i	307i	228i	0i
CUNY Hunter College	13,497	0	3,853	1,008	252	4,410	1,913	1,921	140
CUNY Jay Col Crim Just	1,325	0	22	1	4	0	1	926	371
CUNY Queens College	3,353	0	1,220	380	87	874	624	168	0
CUNY York College	1,526	0	25	12	12	1,455	2	20	0
SUNY Albany	50,568	0	6,201	6,152	696	28,221	2,416	6,882	0
SUNY Binghamton	20,754	6,024	3,578	1,010	1,587	2,232	3,171	3,152	0
SUNY Buffalo	151,650	27,690	10,913	1,383	7,087	93,114	5,590	5,710	163
SUNY Col Brockport	609	0	94	67	0	403	0	45	0
SUNY Col Buffalo	1,157	0	53	377	0	333	0	11	383
SUNY Col Cortland	55	0	5	18	0	16	0	16	0
SUNY Col Env Sci Frstry	22,036	7,293i	1,295i	2,283i	0i	11,032i	0i	133i	0i
SUNY Col Fredonia	118	0	42	8	0	4	54	10	0
SUNY Col Geneseo	475	0	179	36	68	146	30	16	0
SUNY Col Old Westbury	777	0	278	0	9	490	0	0	0
SUNY Col Oswego	716	0	12	343	39	0	322	0	0
SUNY Col Plattsburgh	1,133	0	470	525	0	0	0	138	0
SUNY Col of Optometry	668	0	0	0	0	668	0	0	0
SUNY Grad Sch & U Ctr	5,109	0	0	0	42	0	1,293	2,586	1,188
SUNY Hlth Sci Ctr Brklyn	27,517	0	0	0	0	27,517	0	0	0
SUNY Hlth Sci Ctr Syrcse	14,089	0	0	0	0	14,089	0	0	0
SUNY Purchase College	165	0	0	75	0	61	0	29	0
SUNY Stony Brook	141,766	10,083	23,978	16,566	7,916	77,768	2,705	2,320	430
Private, total	1,438,977	147,790	134,163	53,126	60,924	979,977	25,907	34,610	2,480
Adelphi University	252	0	176	0	0	53	23	0	0
Albany Medical College	8,236	0	0	0	0	8,236	0	0	0
Alfred University	5,275	5,275	0	0	0	0	0	0	0
Barnard College	1,172	0	113	60	45	412	458	84	0
Clarkson University	6,345	4,541	1,374	0	145	162	123	0	0
Columbia University	267,007	14,901	24,154	43,154	5,027	170,957	2,932	5,882	0
Cooper Union	1,515e	350i	340i	17i	91i	571i	13i	74i	59i
Cornell University	363,511	44,687	60,854	4,101	21,757	215,404	5,642	11,066	0
Fordham University	2,247	0	68	103	173	936	33	934	0
Hamilton College	475e	28i	122i	26i	31i	190i	27i	48i	3i
Hofstra University	717	717	0	0	0	0	0	0	0
Ithaca College	1,499	0	172	0	848	379	96	4	0
Long Island University	1,221	9	620	59	10	519	4	0	0
Manhattan College	563	563	0	0	0	0	0	0	0
Mt Sinai Sch Med	109,448	0	0	0	0	109,448	0	0	0
New School University	3,705	0	0	0	0	162	256	3,287	0
New York Inst Technology	295	82	0	39	0	174	0	0	0
New York Medical College	19,159	0	0	0	0	19,159	0	0	0
New York University	156,452	0	6,919	905	12,134	124,351	5,455	5,798	890
Pace University All Cmp	596	0	0	0	0	596	0	0	0
Polytechnic University	6,373	4,067i	1,675i	0i	631i	0i	0i	0i	0i
Rensselaer Polytech Inst	38,560	23,963	6,779	1,363	3,330	2,751	0	217	157
Rochester Inst of Tech	8,133e	1,287	3,996	1,423	0	1,296	0	0	131
Skidmore College	151	0	26	0	4	61	51	9	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
New York, continued:									
Private, continued:									
St John's University (NY)	1,572	0	3	0	41	1,340	188	0	0
Syracuse University	37,322	8,927	5,975	1,120	11,181	4,479	1,798	2,613	1,229
Teachers Col, Columbia U	6,775	0	0	0	333	387	2,145	3,910	0
The Rockefeller Univ	115,494	0	6,768	0	2,234	106,492	0	0	0
Union College (NY)	694	91	137	116	54	243	10	39	4
University of Rochester	174,617	38,158	13,815	639	2,829	111,899	6,649	624	4
Vassar College	596e	144i	77i	1i	26i	320i	4i	21i	3i
Yeshiva University	99,000	0	0	0	0	99,000	0	0	0
North Carolina, total	898,513	106,453	49,629	41,603	26,947	618,262	8,891	43,732	2,996
Public, total	534,012	92,593	29,622	34,049	23,975	314,105	4,409	32,501	2,758
Appalachian State U	558	0	31	123	67	176	19	142	0
East Carolina University	7,644	0	204	1,010	73	5,797	0	560	0
Elizabeth City State U	684	0	0	0	539	123	0	22	0
Fayetteville State U	485	0	77	0	0	301	0	107	0
NC A&T State University	14,816	9,597	463	0	386	3,833	70	466	1
NC State University	254,254	80,278	15,387	16,743	11,964	121,736	579	4,866	2,701
North Carolina Central U	869	0i	209i	0i	0i	534i	0i	126i	0i
U of NC Chapel Hill	235,296	0	11,750	10,127	9,179	176,442	3,149	24,649	0
U of NC Greensboro	2,619	16	233	0	77	1,106	141	1,046	0
U of NC at Charlotte	6,669	2,702	602	536	1,609	630	163	371	56
U of NC at Wilmington	7,208	0	427	5,469	30	1,007	265	10	0
Western Carolina U	442	0	44	41	0	334	23	0	0
Winston Salem State U	2,468	0	195	0	51	2,086	0	136	0
Private, total	364,501	13,860	20,007	7,554	2,972	304,157	4,482	11,231	238
Bennett College	811	0	151	0	50	264	10	150	186
Duke University	282,388	13,710	15,187	7,554	2,662	227,796	4,472	11,007	0
Johnson C Smith U	4,299	150	4,000	0	75	0	0	74	0
Shaw University	110	0	0	0	0	110	0	0	0
Wake Forest University	76,893	0	669	0	185	75,987	0	0	52
North Dakota, total	56,945	9,464	4,860	1,598	680	36,778	457	1,675	1,433
Public, total	56,945	9,464	4,860	1,598	680	36,778	457	1,675	1,433
North Dakota State U	40,007	922	4,516	67	592	32,362	435	1,113	0
Univ of North Dakota	16,938	8,542	344	1,531	88	4,416	22	562	1,433
Ohio, total	808,210	195,672	63,632	12,057	18,854	467,665	10,621	35,458	4,251
Public, total	585,205	125,634	52,740	11,566	18,095	333,249	10,001	29,850	4,070
Air Force Inst of Tech	4,240	3,243	0	203	794	0	0	0	0
Bowling Green State U	3,392	197	1,241	12	2	970	467	189	314
Central State University	1,497	765i	25i	293i	130i	108i	30i	43i	103i
Cleveland State U	11,211e	4,131e	649e	3e	114e	753e	136e	5,425e	0
Kent State University	12,690	228	8,213	524	380	1,212	2,045	88	0
Med Col of Ohio	11,425	0	0	0	0	11,425	0	0	0
Miami University (OH)	6,738	196i	1,789i	205i	21	1,584i	476i	1,106i	1,380i
N.E. Ohio Univs Col Med	2,918	0	0	0	0	2,918	0	0	0
Ohio State University	301,518	70,275	19,733	9,481	15,131	163,913	3,830	18,786	369
Ohio University	21,469	9,236	3,786	363	95	5,664	981	808	536
University of Akron	16,326	5,915	8,380	116	427	894	136	458	0
University of Cincinnati	159,695	21,569	4,356	86	264	129,578	482	2,397	963
University of Toledo	11,512	6,392	2,058	85	16	2,283	320	317	41
Wright State University	19,676	3,321	2,045	194	665	11,943	1,097	231	180
Youngstown State Univ	898	166	465	1	75	4	1	2	184
Private, total	223,005	70,038	10,892	491	759	134,416	620	5,608	181
Antioch University	0	0	0	0	0	0	0	0	0
Case Western Reserve U	176,330	28,340	8,183	293	227	133,979	600	4,708	0
College of Wooster	323	0	175	95	0	53	0	0	0
Ohio Wesleyan University	197	0	10	0	84	103	0	0	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Ohio, continued:									
Private, continued:									
The Union Institute	875	0	0	0	0	0	0	875	0
University of Dayton	45,000	41,418	2,524	103	448	281	20	25	181
Wilberforce University	280e	280e	0e	0e	0e	0e	0e	0e	0e
Oklahoma, total	208,873	31,793	19,461	24,655	6,050	97,373	8,429	15,302	5,810
Public, total	200,573	26,907	17,861	24,218	5,553	96,622	8,324	15,278	5,810
Langston University	2,031	0	0	0	0	2,031	0	0	0
Oklahoma State University	71,466	12,899	5,432	844	2,533	38,293	460	5,205	5,800
U of Central Oklahoma	215	0	28	0	95	51	19	12	10
University of Oklahoma	126,861	14,008	12,401	23,374	2,925	56,247	7,845	10,061	0
Private, total	8,300	4,886	1,600	437	497	751	105	24	0
Oral Roberts University	65	32	23	0	0	10	0	0	0
University of Tulsa	8,235	4,854	1,577	437	497	741	105	24	0
Oregon, total	309,748	21,542	17,496	39,701	15,423	199,818	7,012	8,645	111
Public, total	287,611	17,500	14,114	34,705	6,350	199,421	7,012	8,398	111
Oregon Health Sciences U	105,208i	0i	0i	0i	0i	100,300i	4,908i	0i	0i
Oregon State University	138,240	14,178	6,243	30,233	2,364	83,238	43	1,893	48
Portland State University	10,507	1,390	466	1,617	675	1,275	25	4,996	63
Southern Oregon Univ	341	0	80	73	0	157	0	31	0
University of Oregon	33,315	1,932	7,325	2,782	3,311	14,451	2,036	1,478	0
Private, total	22,137	4,042	3,382	4,996	9,073	397	0	247	0
Lewis and Clark College	468	0	257	0	0	36	0	175	0
Oregon Grad Inst Sci Tech	21,047e	3,990e	3,020e	4,964e	9,073e	0	0	0	0
Pacific University	0	0	0	0	0	0	0	0	0
University of Portland	282	52	8	5	0	145	0	72	0
Willamette University	340	0	97	27	0	216	0	0	0
Pennsylvania, total	1,341,607	234,530	80,337	30,049	81,784	781,609	29,409	86,238	17,651
Public, total	641,779	151,246	38,288	24,625	7,628	329,196	19,058	55,912	15,826
Indiana U of PA All Cmp	512e	0e	1e	7e	0e	79e	62e	363e	0e
Kutztown U of PA	265	0	234	2	17	12	0	0	0
Lincoln University (PA)	821	0	366	0	0	79	0	0	376
Pennsylvania State U	362,643	142,907	25,966	23,552	4,006	99,746	8,864	44,048	13,554
Temple University	63,024	807	1,611	99	579	46,219	5,829	7,359	521
University of Pittsburgh	213,842	7,532	10,108	583	3,009	182,827	4,293	4,142	1,348
West Chester U of PA	672	0	2	382	17	234	10	0	27
Private, total	699,828	83,284	42,049	5,424	74,156	452,413	10,351	30,326	1,825
Allegheny U of Hlth Sci	95,984	0	0	0	0	95,984	0	0	0
Bryn Mawr College	4,231	0	590	511	340	1,196	233	1,361	0
Carnegie Mellon U	137,450	34,363	8,485	2,008	62,466	13,594	6,382	8,416	1,736
Dickinson College	1,789	0	1,037	197	106	262	0	161	26
Drexel University	19,603	12,867	1,332	804	1,676	273	0	2,651	0
Duquesne University	1,297	0	219	0	70	914	66	28	0
Franklin & Marshall Coll	1,158	0	440	84	0	533	31	70	0
Haverford College	1,303	0	556	0	43	642	32	30	0
La Salle University	157	0	22	2	26	75	32	0	0
Lafayette College	625	169	111	65	115	69	17	16	63
Lehigh University	26,115	20,354	3,357	1,279	264	625	165	71	0
Phila Col Osteopathic Med	516	0	0	0	0	516	0	0	0
Phila Col of Phar & Sci	358	0	0	0	0	358	0	0	0
St. Joseph's Univ	595	0	57	0	0	538	0	0	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Pennsylvania, continued:									
Private, continued:									
Swarthmore College	996	130	484	0	30	295	22	35	0
Thomas Jefferson U	69,460	0	0	0	0	69,460	0	0	0
U of Pennsylvania	333,477	12,785	24,546	474	8,954	266,318	3,111	17,289	0
Villanova University	4,714	2,616i	813i	0i	66i	761i	260i	198i	0i
Widener U All Campuses	0	0	0	0	0	0	0	0	0
Rhode Island, total	111,979	12,786	8,840	24,477	12,781	38,935	7,369	5,141	1,650
Public, total	37,940	3,214	824	19,105	133	7,912	4,855	247	1,650
U of Rhode Island	37,940	3,214	824	19,105	133	7,912	4,855	247	1,650
Private, total	74,039	9,572	8,016	5,372	12,648	31,023	2,514	4,894	0
Brown University	73,977	9,568	8,005	5,372	12,648	30,976	2,514	4,894	0
Providence College	62	4	11	0	0	47	0	0	0
South Carolina, total	246,305	43,813	20,424	16,062	14,145	123,286	3,437	12,984	12,154
Public, total	243,746	43,750	19,235	15,771	14,045	122,774	3,372	12,645	12,154
Clemson University	90,150	26,584	5,769	986	4,072	47,941	110	4,014	674
College of Charleston	1,989	0	427	1,289	25	83	31	134	0
Med U of South Carolina	55,937	0	0	0	0	55,937	0	0	0
South Carolina State U	2,885	50i	1,384i	0i	0i	633i	0i	818i	0i
U of South Carolina	92,785	17,116	11,655	13,496	9,948	18,180	3,231	7,679	11,480
Private, total	2,559	63	1,189	291	100	512	65	339	0
Benedict College	634i	0i	51i	0i	0i	244i	0i	339i	0i
Clafin College	1,403	63i	853i	220i	0i	267i	0i	0i	0i
Furman University	522	0	285	71	100	1	65	0	0
South Dakota, total	25,140	2,766	2,159	3,074	69	15,347	5	1,422	298
Public, total	25,140	2,766	2,159	3,074	69	15,347	5	1,422	298
SD Sch of Mines & Tech	4,550	1,619	136	2,586	0	0	0	0	209
South Dakota State U	15,631	1,147	578	469	48	12,782	0	607	0
U of South Dakota	4,959	0	1,445	19	21	2,565	5	815	89
Tennessee, total	346,466	48,743	28,464	15,694	11,514	217,107	8,511	13,345	3,088
Public, total	195,619	41,214	14,929	14,723	9,537	96,748	6,485	8,895	3,088
East Tennessee State U	3,152	0	69	165	2	2,906	0	10	0
Middle Tennessee State U	297	9	122	0	43	77	24	22	0
Tennessee State U	9,329	2,223	1,773	0	530	4,803	0	0	0
Tennessee Tech U	9,661	8,489	358	33	0	776	0	5	0
The University of Memphis	22,486	2,666	1,021	2,916	1,272	2,806	6,405	4,138	1,262
U Tenn Agricultural Inst	33,617	1,376	0	0	0	30,299	0	1,942	0
U of Tenn Space Institute	7,212	7,212	0	0	0	0	0	0	0
U of Tennessee, Chattanooga	1,598	340	27	0	1,047	147	5	32	0
U of Tennessee, Knoxville	64,754	18,058	11,559	11,609	6,643	12,262	51	2,746	1,826
U of Tennessee, Martin	3	0	0	0	0	3	0	0	0
U of Tennessee, Memphis	43,510	841	0	0	0	42,669	0	0	0
Private, total	150,847	7,529	13,535	971	1,977	120,359	2,026	4,450	0
Fisk University	2,909	0	2,810	0	0	99	0	0	0
Knoxville College	0	0	0	0	0	0	0	0	0
Le Moyne-Owen Coll	1,451	0	0	27	1,212	141	0	71	0
Meharry Medical College	11,212e	0	0	673e	0	10,539e	0	0	0
Southern Col of Optometry	61	0	0	0	0	46	15	0	0
Vanderbilt University	135,214	7,529	10,725	271	765	109,534	2,011	4,379	0
Texas, total	1,698,363	268,699	149,196	112,521	55,820	1,041,841	14,699	43,305	12,282
Public, total	1,424,413	259,881	136,690	102,845	42,036	816,884	12,094	42,793	11,190
Lamar University	3,051	2,837	94	5	34	1	0	80	0
Prairie View A&M U	9,952	4,043	1,461	5	488	3,781	0	81	93
Sam Houston State U	4,532	0i	1,185i	2,695i	69i	171i	11i	401i	0i
Southwest Texas St Univ	3,299	0	1,083	256	211	1,726	5	0	18

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

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State, control, and institution	Total	Engineering	Physical sciences	Environmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Texas, continued:									
Public, continued:									
Stephen F Austin St U	4,213	0	387	0	52	3,026	51	697	0
Sul Ross State University	602	0	0	4	0	232	0	366	0
Tarleton State University	3,954	8	46	3,659	15	58	0	163	5
Texas A&M U-Commerce	361	0	21	0	7	261	65	0	7
Texas A&M Univ Kingsville	7,317	1,871	42	480	58	4,866	0	0	0
Texas A&M University	393,720	108,306	20,765	69,912	7,076	159,093	2,236	19,593	6,739
Texas Southern U	2,690	36	72	179	0	2,134	0	0	269
Texas Tech University	53,126	16,221	5,435	1,046	1,947	22,446	75	4,621	1,335
Texas Woman's University	2,359	0	83	0	189	2,035	0	52	0
U North TX Health Sci Ctr	8,921	0	0	0	0	8,524	0	0	397
U TX Arlington	19,075	14,351	2,226	223	140	1,386	42	707	0
U TX Austin	244,843	81,547	83,029	19,477	22,602	25,821	3,072	7,195	2,100
U TX Dallas	15,211	1,680	5,202	974	770	2,467	1,541	2,366	211
U TX El Paso	14,092	5,187	1,101	1,832	1,016	2,968	852	1,136	0
U TX Hlth Sci Ctr San Ant	85,407	0	0	0	0	85,407	0	0	0
U TX MD Anderson Cnrc	141,260	0	3,445	0	2,715	135,100	0	0	0
U TX Med Br Galveston	86,488	1,269	0	0	0	85,219	0	0	0
U TX SW Med Ctr Dallas	153,711	0	0	0	0	153,711	0	0	0
U TX San Antonio	7,220	1,170	252	1	516	3,009	0	2,272	0
U of Houston, Clear Lake	1,691	1,191	20	126	148	53	18	135	0
U of TX Pan American	1,664	587	93	108	68	700	0	108	0
UT-Houston Hlth Sci Ctr	101,993	0	0	0	0	101,993	0	0	0
University of Houston	42,297	19,097	7,770	990	3,234	6,868	3,002	1,333	3
University of North Texas	8,813	304	2,779	789	660	1,674	1,124	1,470	13
West Texas A&M U	2,551	176	99	84	21	2,154	0	17	0
Private, total	273,950	8,818	12,506	9,676	13,784	224,957	2,605	512	1,092
Abilene Christian Univ	330	0	267	0	4	55	4	0	0
Baylor Col of Dentistry	2,359	0	0	0	0	2,359	0	0	0
Baylor Col of Medicine	216,528	0	0	0	0	216,528	0	0	0
Baylor University	2,032	0	747	208	90	338	0	0	649
Jarvis Christian College	55	0i	0i	0i	0i	55i	0i	0i	0i
Rice University	41,067	6,800	9,187	7,585	12,667	4,440	235	153	0
Southern Methodist U	7,964	1,907	1,158	1,837	1,021	1,133	141	324	443
St. Mary's University	0	0	0	0	0	0	0	0	0
Texas Christian U	3,125	111	671	46	2	49	2,225	21	0
University of Dallas	490	0	476	0	0	0	0	14	0
Wiley College	0	0	0	0	0	0	0	0	0
Utah, total	249,147	58,438	17,054	15,319	14,468	128,465	2,258	5,592	7,553
Public, total	237,184	53,107	14,825	15,191	13,772	126,699	1,999	4,038	7,553
University of Utah	142,956	19,174	11,105	4,057	12,471	94,383	1,043	723	0
Utah State University	94,228	33,933	3,720	11,134	1,301	32,316	956	3,315	7,553
Private, total	11,963	5,331	2,229	128	696	1,766	259	1,554	0
Brigham Young University	11,963	5,331	2,229	128	696	1,766	259	1,554	0
Vermont, total	57,832	1,294	778	563	755	51,015	498	36	2,893
Public, total	57,832	1,294	778	563	755	51,015	498	36	2,893
University of Vermont	57,832	1,294	778	563	755	51,015	498	36	2,893
Virginia, total	490,695	88,143	44,334	59,567	18,222	251,052	11,421	17,328	628
Public, total	457,401	85,612	38,351	58,439	17,284	228,648	11,320	17,230	517
Col of William & Mary	25,966	0	4,033	18,538	551	921	96	1,827	0
George Mason University	22,543	5,964	3,869	59	1,685	2,700	1,954	6,312	0
James Madison University	1,568	6	261	109	65	908	0	21	198
Norfolk State University	2,524	23	2,106	0	177	148	0	70	0

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

Page 13 of 14

State, control, and institution	Total	Engi-neering	Physical sciences	Envir-onmental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Virginia, continued:									
Public, continued:									
Old Dominion University	20,150	7,933	2,218	5,380	1,772	2,005	311	531	0
Radford University	273	0	10	141	69	53	0	0	0
University of Virginia	133,049	22,311	11,708	4,783	6,210	82,853	3,124	1,741	319
VA Polytech Inst & St U	167,118	48,844	9,015	29,232	5,288	66,495	2,971	5,273	0
Virginia Commonwealth U	80,538	314	3,392	98	1,467	70,968	2,864	1,435	0
Virginia Military Inst	334	217	117	0	0	0	0	0	0
Virginia State University	3,338	0	1,622	99	0	1,597	0	20	0
Private, total	33,294	2,531	5,983	1,128	938	22,404	101	98	111
Eastern VA Med School	21,672	0	0	0	0	21,672	0	0	0
Hampton University	7,140	638	4,942	1,089	403	68	0	0	0
Institute of Textile Tech	2,776	1,855	560	0	361	0	0	0	0
University of Richmond	1,035	0i	311i	0i	131i	393i	58i	34i	108i
Virginia Union University	671	38i	170i	39i	43i	271i	43i	64i	3i
Washington, total	534,410	48,342	27,843	63,536	9,786	355,737	10,594	16,337	2,235
Public, total	533,966	48,300	27,747	63,528	9,752	355,565	10,587	16,252	2,235
E Washington Univ	2,445e	451i	393i	286i	161i	709i	71i	293i	81i
U of Washington	432,383	34,277	22,595	61,755	8,923	288,925	9,911	5,997	0
W Washington Univ	3,716	1,251	285	561	179	1,126	186	128	0
Washington State U	95,422	12,321	4,474	926	489	64,805	419	9,834	2,154
Private, total	444	42	96	8	34	172	7	85	0
Whitman College	444	42i	96i	8i	34i	172i	7i	85i	0i
West Virginia, total	63,446	18,938	2,969	2,348	988	35,176	471	1,619	937
Public, total	62,694	18,938	2,969	2,348	948	34,464	471	1,619	937
Bluefield State College	15	15	0	0	0	0	0	0	0
Fairmont State College	27	0	5	0	0	10	0	12	0
Marshall University	25	0	0	0	0	25	0	0	0
WV Sch of Osteo Med	146	0	0	0	0	146	0	0	0
West Virginia State Col	119	0	35	0	0	84	0	0	0
West Virginia University	62,362	18,923	2,929	2,348	948	34,199	471	1,607	937
Private, total	752	0	0	0	40	712	0	0	0
Salem-Tekyo University	752	0	0	0	40	712	0	0	0
Wisconsin, total	535,775	64,116	44,542	28,910	12,270	328,137	18,739	35,646	3,415
Public, total	471,287	59,894	43,409	28,910	11,682	270,199	18,739	35,039	3,415
U WI Eau Claire	613	0	289	97	9	146	0	42	30
U WI Green Bay	491	0	0	231	0	16	0	131	113
U WI La Crosse	1,185	0	7	8	17	530	0	623	0
U WI Madison	443,695	56,512	38,814	24,864	10,661	265,262	17,973	28,827	782
U WI Milwaukee	20,807	3,349	4,054	3,325	834	2,569	561	5,075	1,040
U WI Oshkosh	636	0	47	0	0	282	45	44	218
U WI Parkside	334	0	72	0	33	199	0	30	0
U WI River Falls	242	33	50	0	67	88	0	4	0
U WI Stevens Point	1,112	0	33	0	0	1,067	0	11	1
U WI Stout	1,386	0	4	0	1	8	1	141	1,231
U WI Superior	383	0	1	379	0	3	0	0	0
U WI Whitewater	403	0	38	6	60	29	159	111	0
Private, total	64,488	4,222	1,133	0	588	57,938	0	607	0
Marquette University	6,763	2,518	1,133	0	588	1,917	0	607	0
Medical Col of Wisconsin	56,021	0	0	0	0	56,021	0	0	0
Milwaukee School of Eng	1,704	1,704	0	0	0	0	0	0	0
Wyoming, total	48,500	6,006	5,082	10,387	706	19,657	359	648	5,655
Public, total	48,500	6,006	5,082	10,387	706	19,657	359	648	5,655
University of Wyoming	48,500	6,006	5,082	10,387	706	19,657	359	648	5,655

See explanatory information and SOURCE at end of table.

Table B-31. R&D expenditures at universities and colleges, by State, control, and science and engineering field: fiscal year 1998

[Dollars in thousands]

Page 14 of 14

State, control, and institution	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psychology	Social sciences	Other sciences
Guam, total	2,819	0	0	959	0	1,856	0	4	0
Public, total	2,819	0	0	959	0	1,856	0	4	0
University of Guam	2,819	0	0	959	0	1,856	0	4	0
Puerto Rico, total	86,622	6,462	4,055	5,933	720	65,472	1,358	2,196	426
Public, total	80,970	6,462	3,997	5,933	720	59,878	1,358	2,196	426
U PR Mayaguez	51,181	6,188	2,202	4,601	380	37,691	51	68	0
U PR Med Sci Campus	19,830	0	0	0	0	19,830	0	0	0
U PR Rio Piedras	9,959	274	1,795	1,332	340	2,357	1,307	2,128	426
Private, total	5,652	0	58	0	0	5,594	0	0	0
Ponce School of Medicine	2,953i	0i	0i	0i	0i	2,953i	0i	0i	0i
Pont Catholic U of PR	111	0	58	0	0	53	0	0	0
U Ctrl Del Caribe Esc Med	2,588i	0i	0i	0i	0i	2,588i	0i	0i	0i
Virgin Islands, total	4,828	0	0	645	1,593	2,427	0	163	0
Public, total	4,828	0	0	645	1,593	2,427	0	163	0
U of the Virgin Islands	4,828e	0e	0e	645e	1,593e	2,427e	0e	163e	0e

NOTES: Because of rounding, detail may not add to totals.

Beginning in fiscal year 1998, this table reports data for all academic institutions. In prior years this table reported on doctorate-granting institutions only.

KEY:

- = not available
- e = estimated
- i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

Page 1 of 11

Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
Total, all institutions	25,735,268	24,187,601	22,961,974	22,097,902	20,965,816	19,950,563	18,817,827	17,585,279
1 Johns Hopkins U ¹	853,620	829,241	798,468	788,687	784,043	745,515	735,542	710,095
2 University of Michigan	496,761	483,485	468,876	443,070	430,778	425,868	393,059	363,582
3 U CA Los Angeles	447,367	374,629	354,645	303,668	279,869	277,974	270,954	250,033
4 U WI Madison	443,695	419,810	412,570	403,541	392,718	372,362	352,706	326,489
5 U of Washington	432,383	409,959	406,472	389,160	353,945	335,329	313,514	274,423
6 U CA Berkeley ²	420,435	356,813	316,320	291,200	289,632	284,346	284,545	258,038
7 U CA San Diego	418,790	378,061	371,509	357,333	331,901	307,051	282,114	261,422
8 MA Institute of Tech ²	413,098	410,930	380,612	370,800	374,768	377,413	333,908	323,535
9 Stanford University	410,309	395,310	351,526	318,871	318,561	306,676	367,980	314,941
10 Texas A&M University	393,720	366,798	366,983	362,539	355,750	322,691	305,390	288,005
Total, 1st 10 institutions	4,730,178	4,425,036	4,227,981	4,028,869	3,911,965	3,755,225	3,639,712	3,370,563
11 U CA San Francisco	379,970	334,206	320,757	329,742	312,393	314,599	295,784	268,700
12 Cornell University ²	363,511	351,030	339,534	343,786	312,683	310,949	299,342	309,535
13 Pennsylvania State U	362,643	339,955	337,938	330,881	302,997	282,659	278,305	267,816
14 University of Minnesota	360,323	363,095	341,179	336,524	317,865	332,033	317,026	331,471
15 U of Illinois Urbana	338,841	286,470	268,995	246,174	245,407	252,811	251,970	243,380
16 U of Pennsylvania	333,477	296,141	288,430	272,393	251,461	233,829	222,424	198,221
17 University of Colorado	311,203	269,816	251,301	243,932	234,267	193,217	176,266	160,526
18 Harvard University	306,100	299,961	282,443	276,422	278,459e	257,207	253,126	229,939
19 University of Arizona	302,328	285,278	279,656	292,351	269,939	235,528	221,999	213,726
20 Ohio State University	301,518	289,100	262,147	246,287	230,515	221,460	203,291	194,919
Total, 1st 20 institutions	8,090,092	7,540,088	7,200,361	6,947,361	6,667,951	6,389,517	6,159,245	5,788,796
21 U CA Davis	288,796	255,070	254,604	244,116	230,147	223,758	209,282	200,664
22 Duke University	282,388	251,536	242,235	218,703	220,220	202,434	188,678	164,232
23 University of Florida	274,862	272,373	255,099	199,216	148,592	142,966	140,189	140,257
24 Washington University	269,550	262,426	218,640	209,100	192,378	179,329	170,339	160,464
25 U of Southern California	268,806	259,246	244,258	222,159	207,275	200,822	194,740	175,595
26 Columbia University	267,007	244,337	236,403	244,991	236,417	204,710	199,516	194,666
27 Yale University	262,680	245,536	234,901	231,819	224,939	226,850	211,569	193,893
28 Georgia Institute of Tech	259,233	240,237	225,633	211,875	193,630	175,873	180,263	176,729
29 NC State University	254,254	229,292	190,748	180,191	173,407	155,624	143,008	142,606
30 U TX Austin	244,843	239,021	241,606	228,676	260,602	249,158	228,545	237,043
Total, 1st 30 institutions	10,762,511	10,039,162	9,544,488	9,138,207	8,755,558	8,351,041	8,025,374	7,574,945
31 U of NC Chapel Hill	235,296	221,380	208,529	209,118	201,622	179,157	161,549	142,681
32 U of Alabama Birmingham	227,720	203,758	170,193	158,779	141,735	133,790	117,844	113,317
33 Northwestern University	223,235	200,943	187,262	173,731	169,949	162,299	141,975	144,809
34 U MD College Park	223,190	215,927	216,957	209,945	198,348	229,344	219,041	206,432
35 University of Georgia	217,945	225,457	209,357	206,256	187,849	172,274	165,279	162,992
36 Baylor Col of Medicine	216,528	192,744	184,613	190,375	186,865	172,252	167,998	161,084
37 Purdue University	216,479	206,588	206,951	203,419	172,733	149,032	140,260	136,325
38 University of Pittsburgh	213,842	202,533	189,826	186,457	185,377	178,778	157,250	130,322
39 Louisiana St U, All Camp	208,928	205,441	196,328	186,723	165,857	158,823	151,844	147,626
40 U of Iowa	199,063	184,414	178,228	164,893	157,036	148,811	135,418	124,058
Total, 1st 40 institutions	12,944,737	12,098,347	11,492,732	11,027,903	10,522,929	10,035,601	9,583,832	9,044,591
41 Rutgers the State U NJ	197,053	183,038	185,103	192,263	173,211	161,025	162,089	151,335
42 Michigan State University	193,611	190,178	182,589	182,009	163,285	150,861	142,308	133,249
43 California Inst of Tech ²	185,066	177,888	157,005	138,016	127,946	115,439	111,733	115,526
44 Case Western Reserve U	176,330	161,825	143,435	141,089	133,272	124,691	118,391	104,199
45 University of Rochester ²	174,617	155,311	144,914	158,539	167,485	161,810	139,992	131,777
46 Emory University	172,884	163,619	149,168	148,178	136,186	120,125	101,398	91,940
47 Indiana University	171,754	165,198	154,260	145,512	136,617	127,877	117,565	102,461
48 VA Polytech Inst & St U	167,118	169,808	143,815	148,501	148,313	135,771	130,994	125,256
49 University of Kentucky	161,346	124,804	118,721	111,934	105,539	102,911	92,244	81,137
50 University of Cincinnati	159,695	141,604	127,733	91,159	93,599	92,512	90,279	80,598
Total, 1st 50 institutions	14,704,211	13,731,620	12,999,475	12,485,103	11,908,382	11,328,623	10,790,825	10,162,069

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
51 Iowa State University ²	156,766	155,433	151,914	154,932	155,982	148,459	132,580	134,657
52 New York University	156,452	153,288	145,874	148,935	139,202	129,774	122,399	112,106
53 U TX SW Med Ctr Dallas	153,711	140,589	130,162	125,301	118,398	114,258	102,263	94,511
54 University of IL Chicago	151,739	139,296	121,540	119,381	113,741	106,952	102,267	90,520
55 SUNY Buffalo	151,650	135,663	137,701	143,768	141,092	128,203	128,428	113,441
56 University of Chicago ²	151,635	150,531	135,693	126,261	121,902	111,877	118,123	113,289
57 U of Tennessee System	150,694	154,230	149,331	151,316	153,340	143,662	131,240	128,418
58 Univ of Hawaii Manoa	148,007	120,107	111,202	78,429	70,079	73,961	80,258	78,166
59 U of MD Baltimore	143,321	134,808	122,207	107,874	110,866	111,772	100,312	100,163
60 University of Utah	142,956	135,911	114,423	105,642	103,771	105,263	108,486	94,621
Total, 1st 60 institutions	16,211,142	15,151,476	14,319,522	13,746,942	13,136,755	12,502,804	11,917,181	11,221,961
61 SUNY Stony Brook	141,766	136,624	126,377	122,611	113,251	107,817	98,906	90,790
62 U TX MD Anderson Cnrc	141,260	129,578	120,964	122,181	122,357	127,475	112,121	108,988
63 Colorado State University	140,179	128,580	126,701	122,172	112,457	115,385	107,339	80,474
64 Wayne State University	138,456	124,383	112,151	106,140	94,632	85,627	81,127	69,997
65 Oregon State University	138,240	131,467	131,334	123,402	119,772	114,004	107,573	96,199
66 Carnegie Mellon U ²	137,450	134,954	136,514	125,659	122,580	118,261	110,571	103,030
67 University of Miami	136,972	135,888	130,056	128,736	121,475	120,875	104,165	96,979
68 U of Missouri Columbia	136,061	128,178	119,079	122,870	121,256	106,193	97,242	96,748
69 Vanderbilt University	135,214	122,598	117,003	111,224	110,105	96,181	95,447	80,759
70 University of Connecticut	134,448	140,840	147,522	139,956	136,740	133,054	124,010	123,794
Total, 1st 70 institutions	17,591,188	16,464,566	15,587,223	14,971,893	14,311,380	13,627,676	12,955,682	12,169,719
71 University of Virginia	133,049	114,085	97,334	136,679	129,504	115,786	110,103	96,733
72 U CA Irvine	130,415	113,187	119,647	109,908	104,778	100,631	89,275	82,523
73 Boston University	130,054	120,392	110,266	103,709	90,504	91,158	83,701	74,881
74 University of Oklahoma	126,861	114,387	109,071	102,337	95,747	92,019	92,146	79,777
75 University of New Mexico	125,910	116,152	116,618	129,354	90,315	76,736	72,863	67,344
76 U of Nebraska Lincoln	118,857e	117,100	102,460	107,721	102,746	94,959	91,427	87,529
77 University of Kansas	117,115	108,893	100,649	100,702	95,701	85,134	75,004	65,982
78 Georgetown University	116,611	119,114	112,582	102,421	82,661	73,785	64,937	60,454
79 Princeton University ²	115,996	114,549	112,380	104,157	99,287	95,561	93,958	92,002
80 The Rockefeller Univ	115,494	109,999	105,595	99,348	74,458	74,396	75,102	74,090
Total, 1st 80 institutions	18,821,550	17,612,424	16,673,825	16,068,229	15,277,081	14,527,841	13,804,198	12,951,034
81 U Med & Dent NJ	114,491	110,383	98,535	96,365	86,866	76,410	84,505	80,787
82 Mt Sinai Sch Med	109,448	94,776	92,405	92,008	86,179	75,337	75,561	66,310
83 Oregon Health Sciences U	105,208i	98,319	80,333	74,726	63,875	56,860	49,313	41,661
84 U of South Florida	104,325	99,649	94,157	92,758	86,186	75,322	68,713	72,948
85 UT-Houston Hlth Sci Ctr	101,993	95,638	82,803	74,664	66,432	58,786	55,262	53,896
86 Mississippi State U	100,410	84,157	84,124	72,145	76,201	70,300	65,754	64,335
87 Yeshiva University	99,000	96,819	91,430	94,739e	92,881	89,636	87,196	86,721
88 U CA Santa Barbara	96,034	94,796	91,284	78,737	73,619	68,775	66,007	59,593
89 Allegheny U of Hlth Sci	95,984	85,748	48,790	41,237	45,218	42,752	44,038	37,814
90 Washington State U	95,422	97,700	98,641	96,810	94,819	92,434	85,080	75,244
Total, 1st 90 institutions	19,843,865	18,570,409	17,536,327	16,882,418	16,049,357	15,234,453	14,485,627	13,590,343
91 Florida State University	94,463	95,908	78,125	86,060	76,588	62,929	50,178	53,811
92 Utah State University	94,228	91,292	81,709	82,468	79,085	75,835	89,776	94,167
93 U of South Carolina	92,785	77,855	78,619	79,710	74,001	57,062	54,360	55,091
94 Tufts University	92,130	83,568	79,356	77,093	73,749	68,519e	60,891e	47,748
95 Arizona State University	92,019	80,740	84,653	77,009	62,563	66,142	69,346	63,489
96 Clemson University	90,150	84,034	84,836	82,883	76,572	78,569	77,579	70,236
97 U MA Amherst	89,970	85,811	73,678	66,082	65,344	64,111	62,990	--
98 Tulane University	87,858	86,427	83,660	100,231	83,885	75,634	72,190	71,781
99 Auburn University	87,768	85,460	87,358	85,566	84,769	68,151	66,773	69,913
100 U TX Med Br Galveston	86,488	77,683	73,759	72,569	72,773	67,998	57,672	45,086
Total, 1st 100 institutions	20,751,724	19,419,187	18,342,080	17,692,089	16,798,686	15,919,403	15,147,382	14,161,665

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
101 U TX Hlth Sci Ctr San Ant	85,407	86,019	83,028	87,336	83,535	75,239	65,179	51,768
102 U MA Worcester	82,950	71,346	63,341	62,441	61,790	60,602	53,342	--
103 Kansas State University	81,233	76,896	71,222	71,103	65,696	62,562	57,723	53,010
104 Virginia Commonwealth U	80,538	78,948	79,018	76,529	76,597	77,097	69,189	65,608
105 U CA Riverside	79,775	74,420	71,495	62,539	60,995	59,065	57,536	57,244
106 New Mexico State Univ	77,370	81,024	76,493	81,455	80,286	85,974	83,900	78,736
107 Wake Forest University	76,893	75,290	75,331	68,388	52,581	57,646	49,919	44,214
108 U of Alaska Fairbanks	75,606	70,943	71,381	72,216	76,093	66,796	67,881	67,432
109 Woods Hole Oceanograph	75,011	77,407	73,015	80,235	81,345	81,519	82,845	76,979e
110 George Washington U	74,481	55,158	49,263	43,488	38,429	41,177	39,335	29,791
Total, 1st 110 institutions	21,540,988	20,166,638	19,055,667	18,397,819	17,476,033	16,587,080	15,774,231	14,686,447
111 Brown University	73,977	71,411	67,621	56,269	55,146	57,152	55,585	49,503
112 U Arkansas Main	71,686	64,868	59,753	59,410	57,815	58,325	44,768	40,831
113 Oklahoma State University	71,466	62,480	82,960	75,906	70,808	72,920	71,238	67,492
114 University of Delaware	69,896	65,095	54,154	53,161	50,734	52,627	48,970	44,696
115 Thomas Jefferson U	69,460	69,228	69,154	65,705	56,932	51,106	41,329	33,066
116 Dartmouth College	64,964	61,619	52,945	50,525	57,845	59,920	53,668	49,384
117 Temple University	63,024	54,500	56,533	54,742	56,308	53,686	53,921	54,921
118 West Virginia University	62,362	63,312	54,844	53,072	58,604	54,271	52,482	49,686
119 University of Idaho	58,967	57,582i	56,198	52,529	49,338	44,655	44,140	39,407
120 University of Vermont	57,832	59,526	53,659	54,065	51,775	49,839	49,542	46,541
Total, 1st 120 institutions	22,204,622	20,796,259	19,663,488	18,973,203	18,041,338	17,141,581	16,289,874	15,161,974
121 U CA Santa Cruz	56,533	47,494	51,062	44,294	42,457	37,886	36,413	31,620
122 Medical Col of Wisconsin	56,021	51,629	47,365	44,169	49,604	48,689	43,579	40,446
123 Med U of South Carolina	55,937	57,111	54,426	57,495	46,249	42,543	31,900	25,877
124 Rush University	55,277	49,969	48,772	44,322	39,736	34,039	26,184	27,359
125 Texas Tech University	53,126	46,645	43,000	40,824	39,455	38,119	36,869	34,994
126 U of New Hampshire	52,359	45,886	45,693	42,548	43,707	39,555	33,744	29,591
127 Montana St U Bozeman	52,292	49,440	50,097	47,998	36,149	32,911	34,419	30,278
128 U PR Mayaguez	51,181	48,857	44,502	40,393	22,967	23,156	25,238	27,897i
129 SUNY Albany	50,568	57,415	66,247	38,771	43,353	37,860	35,856	20,580
130 U of NE Med Ctr Omaha	50,453	45,365	42,612	38,287	33,997	31,669	31,564	27,858
Total, 1st 130 institutions	22,738,369	21,296,070	20,157,264	19,412,304	18,439,012	17,508,008	16,625,640	15,458,474
131 University of Wyoming	48,500	47,753	40,553	40,470	38,464	32,556	30,181	23,009
132 U of Nevada Reno	45,476	52,703	47,977	46,783	42,176	38,564	37,546	29,303
133 University of Dayton	45,000	45,437	43,188	46,084	47,768	45,052	41,009	37,925
134 Brandeis University	44,589	40,145	36,760	36,451	34,835	36,213	35,229	33,837
135 University of Houston	42,297	45,916	49,178	44,993	43,131	55,038	44,957	42,292
136 San Diego St University	41,915	40,586	43,201	35,287	29,309	32,493	30,683	28,570
137 Rice University	41,067	43,601	39,696	34,446	33,309	30,403	29,424	30,577
138 NJ Inst of Technology	40,982	38,728	39,110	30,940	29,983	23,781	21,126	16,463
139 North Dakota State U	40,007	35,197	43,661	40,677	36,977	34,971	34,466	31,935
140 Medical Col of Georgia	39,806	38,725	35,971	31,369	28,020	24,935	21,426	12,082
Total, 1st 140 institutions	23,168,008	21,724,861	20,576,559	19,799,804	18,802,984	17,862,014	16,951,687	15,744,467
141 U Arkansas Medical Sci	39,487	37,336	33,354	28,389	22,762	15,686	15,889	14,250
142 University of Louisville	39,147	33,434	29,655	22,835	20,475	19,496	17,400	16,852
143 Rensselaer Polytech Inst	38,560	38,803e	37,917	37,247	37,191	44,132	50,769	50,106
144 U of Rhode Island	37,940	40,522	39,575	43,103i	46,631	45,942	40,842e	38,842
145 Tuskegee University	37,354	33,046	9,061	7,446	7,121	5,500	4,800	4,426
146 Syracuse University	37,322	34,642	34,322	33,939	38,650	32,443	32,145	30,606
147 U of Alabama Huntsville	36,946	32,817	38,176	36,736	31,482	34,153	32,017	28,897
148 U of Central Florida	35,530	18,924	21,488	37,147	33,599	33,922	27,629	41,935
149 Loyola U of Chicago	34,241	30,994	29,365	33,098i	36,830	29,232	30,099	22,702
150 US Naval Postgrad School	34,095	32,333	30,706	27,510	26,538	24,296	20,412	19,397
Total, 1st 150 institutions	23,538,630	22,057,712	20,880,178	20,107,254	19,104,263	18,146,816	17,223,689	16,012,480

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
151 University of Oregon	33,315	31,487	33,654	30,386	31,170	30,738	30,242	26,151
152 U of Maine	33,106	33,144	34,684	31,901	29,393	24,879	23,213	27,082
153 U MD Biotechnology Inst	31,861	29,117	22,933	18,062	14,839	--	--	--
154 Georgia State University	31,153	27,069	18,114	17,867	17,100	12,133	10,026	9,271
155 Sthrn IL U Carbondale	30,490	30,043	28,578	29,631	30,497	26,376	28,094	28,340
156 Clark Atlanta University	29,637	28,893	34,566	25,245	12,709	12,057	11,483	8,655
157 University of Notre Dame	28,873	24,116	24,556	23,332	22,833	23,745	22,679	21,302
158 U Mississippi, All Camp	28,079	26,231	26,215	26,862	25,000	23,734	23,361	24,748
159 SUNY Hlth Sci Ctr Brklyn	27,517	29,727	30,254i	30,781	27,773	27,645	24,171	32,824
160 Saint Louis University	26,943	26,517	25,099	22,686	20,844	20,826	19,932	19,183
Total, 1st 160 institutions	23,839,604	22,344,056	21,158,831	20,364,007	19,336,421	18,348,949	17,416,890	16,210,036
161 Michigan Tech University	26,522	24,140	23,882	22,798	21,786	18,696	18,179	19,667
162 Northeastern University	26,385	19,822	17,980	19,850	19,104	18,517	15,876	15,973
163 Lehigh University	26,115	26,451	34,780	35,117	29,188	30,869	31,822	27,912
164 Col of William & Mary	25,966	24,051	25,183	20,597	20,443	21,793	18,890	18,508
165 U of Southwestern LA	24,768	22,381	13,429	13,416	11,099	11,319	10,815	10,232
166 The University of Alabama	24,043	23,671	21,806	23,479	21,960	23,149	22,573	21,248
167 U MD Ctr for Environ Sci	24,038	21,377	21,448	21,100	19,817	19,055	18,557	16,205
168 Howard University	23,673	27,873	28,894	24,819	19,836	18,427	17,576	15,731
169 NM Inst Mining & Tech	22,791	21,974	20,580	19,584	20,945	24,040	25,208	24,059i
170 George Mason University	22,543	19,126	23,230	22,221	18,871	15,830	11,930	9,726
Total, 1st 170 institutions	24,086,448	22,574,922	21,390,043	20,586,988	19,539,470	18,550,644	17,608,316	16,389,297
171 The University of Memphis	22,486	21,271	18,429	14,642	13,305	11,740	12,169	12,000
172 SUNY Col Env Sci Frstry	22,036	20,540	21,969	21,904i	21,839	21,856	18,456	19,049
173 U of Missouri Rolla	21,740	20,895	20,235	21,220	19,706	18,025	15,619	14,432
174 Eastern VA Med School	21,672	19,109	17,730	17,823	17,873	15,818	11,238	11,112
175 Desert Research Institute	21,500	20,000	20,100	22,851	21,459	21,187	20,579	17,948
176 Ohio University	21,469	21,008	18,329	19,713	16,425	15,452	14,811	12,796
177 CUNY City College	21,147	22,526	22,166	22,695	18,831	20,401	16,454	15,451
178 Oregon Grad Inst Sci Tech	21,047e	20,045	21,412	22,141	20,859	18,288	12,332	11,160
179 San Jose State University	21,005e	21,005i	21,005i	21,005i	21,005i	21,005	18,326	12,100
180 U WI Milwaukee	20,807	19,995	19,679	19,684	19,180	18,245	18,567	16,865
Total, 1st 180 institutions	24,301,357	22,781,316	21,591,097	20,790,666	19,729,952	18,732,661	17,766,867	16,532,210
181 SUNY Binghamton	20,754	19,310	18,500	17,106	15,803	13,760	12,843	9,870
182 Colorado School of Mines	20,681	19,221	19,291	16,585i	13,880	13,644	12,783	12,971
183 Unif Svcs U of Hlth Sci	20,309	18,812	36,851	39,612	27,334	30,846	27,875i	24,904i
184 Old Dominion University	20,150	18,583	17,577	14,439	14,911	14,097	10,859	10,040
185 The University of Montana	20,133	21,151	21,421	18,881	16,908	15,169	10,177	7,871
186 U PR Med Sci Campus	19,830	15,575	15,005	17,354	17,765	14,622	18,296	11,014
187 Wright State University	19,676	17,291	17,381	18,661	19,388	19,791	16,793	14,646
188 Drexel University	19,603	19,267	19,322	19,389	20,886	20,314	23,184	19,705
189 U MA Lowell	19,372	18,695	18,515	15,505	15,155	14,292	14,880	12,403
190 New York Medical College	19,159	16,890	16,372	18,424	18,725	18,491	16,799	14,633
Total, 1st 190 institutions	24,501,024	22,966,111	21,791,332	20,986,622	19,910,707	18,907,687	17,931,356	16,670,267
191 U TX Arlington	19,075	37,509	24,010	21,135	17,453	14,834	13,896	12,887
192 Florida A&M University	19,066	25,415	22,474	20,797	24,691	22,777	22,230	18,552
193 U MD Baltimore County	18,155	19,799	14,304	11,868	8,117	7,544	7,619	6,809
194 Florida International U	17,880	17,359	16,856	16,375	13,520	11,443	--	--
195 Boston College	17,774	14,746	14,504	13,298	10,724	10,731	10,400	9,810
196 C R Drew U of Med & Sci	17,205e	17,205e	16,386	12,500	9,347	6,852	7,862	7,043
197 Univ of North Dakota	16,938	20,899	28,188	18,940	18,732	19,204	18,265	16,995
198 U of Nevada Las Vegas	16,912	15,628	16,893	17,268	15,486	19,373	13,300	19,491
199 University of Akron	16,326	17,999	15,507	15,589	16,783	17,558	14,825	13,405
200 Western Illinois U	15,882	14,152	13,517	14,009	13,780	14,448	11,800i	9,155i
Total, 1st 200 institutions	24,676,237	23,166,822	21,973,971	21,148,401	20,059,340	19,052,451	18,051,553	16,784,414

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
201 South Dakota State U	15,631	15,671	14,925	13,448	14,083	14,050	12,692	11,511
202 Inst Paper Sci and Tech	15,424e	15,424e	12,532i	9,640	8,995	8,344	7,474	7,887
203 U TX Dallas	15,211	14,561	13,562	14,027i	14,492	13,371	12,995	10,571
204 Creighton University	15,011	13,127	11,641	11,036	9,645	9,109	8,047	8,324
205 Mercer University	14,995	13,704	13,641	11,181	14,201	13,771	10,354	8,172
206 NC A&T State University	14,816	15,817	15,991	15,774	13,637	12,090	11,914	10,427
207 Florida Atlantic U	14,265	10,521	10,576	13,776	11,236	11,331	8,021	5,600
208 Alabama A&M University	14,143	9,813e	9,615i	9,417	11,098	9,316	7,053	6,699
209 U TX El Paso	14,092	15,850	13,548	12,705	12,062	12,480	10,147	9,447
210 SUNY Hlth Sci Ctr Syrcse	14,089	14,914	14,093	13,177	11,751	12,453	12,992	14,564
Total, 1st 210 institutions	24,823,914	23,306,224	22,104,095	21,272,582	20,180,540	19,168,766	18,153,242	16,877,616
211 Illinois Inst of Tech	14,013	16,182	16,000	11,923	8,853	8,252	6,293	7,128
212 Morehouse School of Med	13,614	13,218	13,206	7,896	7,522	7,448	7,106	6,291
213 CUNY Hunter College	13,497	14,037	15,021	12,421	12,264	10,381	8,939	8,075
214 Wichita State University	13,117	11,797	9,904	9,691	7,483	6,407	6,285	5,182
215 Stevens Inst of Tech	12,944	12,179	15,249	13,766	13,460	14,004	14,580	8,303
216 U of Missouri Kansas City	12,875	11,734	12,597	11,727	11,420	10,976	9,889	8,300
217 Loma Linda University	12,788	13,396	10,837	9,270	9,204	9,030	8,028	6,191
218 Kent State University	12,690	11,439	11,497	10,802	11,312	12,075	11,655	8,469
219 Northern Illinois U	12,495	10,590	11,674	12,600	11,445	11,215	10,708	10,074
220 U of South Alabama	11,990	13,083	14,873	13,426	13,917	12,650	12,277	12,924
Total, 1st 220 institutions	24,953,937	23,433,879	22,234,953	21,386,104	20,287,420	19,271,204	18,249,002	16,958,553
221 Brigham Young University	11,963	11,502e	11,791e	14,102	13,859	13,587	14,469	12,682
222 Northern Arizona U	11,652	10,800	11,572	10,856	10,290	9,051	8,388	6,913
223 Western Michigan U	11,532	10,035	9,606	9,033	9,145	8,630	6,199	6,011
224 University of Toledo	11,512	8,729	8,180e	7,436	8,043	8,441	7,287	6,743
225 U MA Boston	11,491	11,194	10,898	9,146	10,962	9,745	7,974	--
226 Med Col of Ohio	11,425	13,469	13,367	13,008	12,471	12,285	10,905	9,353
227 Meharry Medical College	11,212e	11,212e	11,212	10,738	10,336	9,283	7,258	7,249
228 Cleveland State U	11,211e	10,884e	10,690i	10,496	10,570	9,803	10,939	10,205
229 U Southern Mississippi	11,117	9,078	9,112	8,827	8,413	7,334	5,375	7,388
230 University of Denver	10,589	9,019	8,349	11,091	6,671	8,595	8,284	6,484
Total, 1st 230 institutions	25,067,641	23,539,801	22,339,730	21,490,837	20,388,180	19,367,958	18,336,080	17,031,581
231 Portland State University	10,507	9,285	9,376	7,920	7,146	5,860	4,433	4,169
232 Idaho State University	10,016	5,495	8,732	6,092	6,052	4,119	2,756	2,030
233 U PR Rio Piedras	9,959	6,671	6,116	5,554	5,434	5,502	4,518	5,058
234 Prairie View A&M U	9,952	9,768	10,621	8,019	8,306	5,931	6,098	3,623
235 Tennessee Tech U	9,661	9,053	9,188	10,184	9,357	9,478	9,872	9,888
236 Worcester Polytech Inst	9,637	10,710	9,407	11,611	11,602	11,484	8,925	5,889
237 U of Missouri St Louis	9,462	8,150	7,600	7,503	6,664	4,681	4,304	2,468
238 Catholic U of America	9,418	8,845	7,427	7,670	7,542	7,926	7,346	7,365
239 Tennessee State U	9,329	8,629	9,137	7,431	6,916	5,252	4,475	3,709
240 Southern U A&M All Camp	9,063	10,249	10,748	9,639	6,512	6,837	6,813	5,942
Total, 1st 240 institutions	25,164,645	23,626,656	22,428,082	21,572,460	20,463,711	19,435,028	18,395,620	17,081,722
241 U North TX Health Sci Ctr	8,921	7,258	6,499	5,381	5,475	5,718	3,920	3,504
242 University of North Texas	8,813	10,678	11,250	10,616	10,110	9,026	10,701	10,580
243 Albany Medical College	8,236	6,965	7,888	14,981	10,324	11,845	9,681	10,131
244 University of Tulsa	8,235	9,776	9,565	8,107	7,945	7,889	5,961	5,318
245 Rochester Inst of Tech	8,133e	8,398	8,118	6,370	11,528	6,331	5,343i	4,357i
246 Southern Methodist U	7,964	8,220	9,050	7,595	8,277	7,037	7,722	8,607
247 Louisiana Tech University	7,659	5,379i	3,100	2,707i	2,315	3,582	3,985	2,759
248 East Carolina University	7,644	6,600	6,817	7,772	8,245	7,360	6,067	6,119
249 Texas A&M Univ Kingsville	7,317	6,623i	5,933i	5,243i	4,553i	3,863	2,937	2,674
250 Oakland University	7,272	6,598	6,832	7,168	6,285	6,096	5,804	5,912
Total, 1st 250 institutions	25,244,839	23,703,151	22,503,134	21,648,400	20,538,768	19,503,775	18,457,741	17,141,683

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
251 U TX San Antonio	7,220	15,890	5,538	4,760i	3,982	3,286	--	--
252 U of NC at Wilmington	7,208	6,905i	6,604i	6,303i	6,002i	5,701	--	--
253 Hampton University	7,140	8,002	3,854	6,344	5,342	4,597	3,272	3,345
254 Teachers Col, Columbia U	6,775	1,381	1,005	736i	468	79	401	429
255 Marquette University	6,763	5,855	5,946	5,588	5,322	4,896	4,256	3,821
256 Miami University (OH)	6,738	9,644	8,847	7,137	6,731	4,919	3,972	3,087
257 Finch U Hlth Sci Chicago	6,672e	6,672	7,022	6,692	7,057	6,928	5,899	4,908
258 U of NC at Charlotte	6,669	6,340i	6,014i	5,688i	5,362i	5,036	4,724	3,220
259 Polytechnic University	6,373	8,452	10,964	10,897	11,869	9,424	9,273	9,272
260 Clarkson University	6,345	6,964	8,264	9,314	10,412	10,586	9,518	9,125
Total, 1st 260 institutions	25,312,742	23,779,256	22,567,192	21,711,859	20,601,315	19,559,227	18,499,056	17,178,890
261 Western Kentucky Univ	6,342	5,249i	4,160i	3,071i	1,982i	893	786i	679i
262 CA St U Long Beach	6,252i	5,843	5,843	5,676i	5,509i	5,342i	5,175i	5,008i
263 Northeast Louisiana U	6,140	7,112	6,134	5,409	5,282	2,644	2,401	904
264 Jackson State University	6,111	5,135	5,224	4,960i	4,697	4,371	4,065	3,912
265 Calif Polytechnic	5,972	5,648i	5,324i	5,000i	4,676i	4,352	3,079	3,258
266 Florida Inst of Tech	5,848	5,077	8,013	7,973	4,384	5,866	5,924	6,305
267 Xavier University of LA	5,388	5,527	5,188	10,048	4,176	3,169	2,379	2,424
268 Alfred University	5,275	3,694	4,217	4,667	4,712	4,479	4,117	3,911
269 Indiana State University	5,255	1,265	1,548	1,208	1,042	835	1,267	1,179
270 Wesleyan University	5,146	5,927	5,245	5,093	5,112	4,804	4,095	3,248
Total, 1st 270 institutions	25,370,471	23,829,733	22,618,088	21,764,964	20,642,887	19,595,982	18,532,344	17,209,718
271 Alcorn State University	5,119	4,243i	3,368	3,233i	3,099	3,129	2,517	2,041
272 SUNY Grad Sch & U Ctr	5,109	4,999	4,224i	3,449i	2,674	3,125	3,185	2,554
273 U of South Dakota	4,959	4,586	5,500	3,149	2,879	3,996	1,851	1,598
274 Wellesley College	4,943e	4,943	4,944	1,782	1,747	1,731i	1,718i	1,705i
275 U MA Dartmouth	4,902	4,197	4,092	3,709	3,134	2,340	1,941	--
276 U of the Virgin Islands	4,828e	4,828e	4,828	3,811i	2,794	6,189	5,753i	5,318i
277 Villanova University	4,714	2,141	2,040	1,996	1,848	1,670	1,560	1,461
278 Illinois State University	4,688e	4,596	4,608	5,166	5,071	4,535	3,294	2,898
279 SD Sch of Mines & Tech	4,550	4,301	5,015	4,795	4,718	4,150	3,693	2,850
280 Sam Houston State U	4,532	5,849	5,490	3,905i	2,321	1,380	1,072	1,238
Total, 1st 280 institutions	25,418,815	23,874,416	22,662,197	21,799,959	20,673,172	19,628,227	18,558,928	17,231,381
281 Bowie State University	4,511	2,672	49	173	937	465	425	234
282 Humboldt State University	4,417	4,175i	3,937i	3,699i	3,461i	3,223i	2,985i	2,747i
283 Johnson C Smith U	4,299	1,546	1,307	1,307	2,083	377	276	475
284 Univ of West Florida	4,294	3,683i	3,072i	2,461i	1,850i	1,239	1,350	1,254
285 Air Force Inst of Tech	4,240	7,619	5,877	5,960	7,057	3,252	3,813	2,243
286 Bryn Mawr College	4,231	7,016	3,432	2,403	2,559	2,310	1,746	2,490
287 Stephen F Austin St U	4,213	5,083	3,990	3,392	2,820	1,771	1,490	1,178
288 U.S. Air Force Academy	4,163	3,720i	3,279i	2,838i	2,397i	1,956	1,564i	1,173i
289 U Arkansas Pine Bluff	4,151	3,974	3,424	4,780	3,446	3,247	2,372	2,419
290 Morgan State University	3,981	3,873i	3,768i	3,663i	3,558	1,496	1,223	701
Total, 1st 290 institutions	25,461,315	23,917,777	22,694,332	21,830,635	20,703,340	19,647,563	18,576,172	17,246,295
291 Tarleton State University	3,954	2,695	2,987	2,535	2,760	2,839	1,396	998
292 W Washington Univ	3,716	3,481i	3,249i	3,017i	2,785i	2,553i	2,321i	2,089i
293 New School University	3,705	5,011	4,801i	4,592i	4,383	1,559	1,572	1,164
294 American University	3,453	3,029	3,279	3,063	3,226	3,903	4,330	5,057
295 Boise State University	3,412	3,211	3,102	3,285	2,453	1,630	--	--
296 Bowling Green State U	3,392	3,542	3,942	3,700	3,874	3,430	3,430	3,729
297 CA St U Chico	3,376	3,558	1,629	3,413	2,158	2,158	1,826i	1,494i
298 CUNY Queens College	3,353	2,686	2,980	3,397	2,705	2,649	2,328	2,518
299 Virginia State University	3,338	3,988	3,270	3,134	4,569	4,801	6,075	5,795
300 Lincoln University	3,313	2,899	2,970	2,934	3,121	2,958	3,194	3,027
Total, 1st 300 institutions	25,496,327	23,951,877	22,726,541	21,863,705	20,735,374	19,676,043	18,602,644	17,272,166

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
301 Southwest Texas St Univ	3,299	3,339i	3,376i	3,413i	3,450i	3,487	2,788i	2,091i
302 East Tennessee State U	3,152	2,252	2,255	2,205	2,283	1,927	1,750	1,740
303 CUNY Brooklyn College	3,132e	2,969	2,800	2,436	1,783	2,181	2,311i	2,437i
304 Texas Christian U	3,125	3,175	2,787	2,783	3,110	3,170	3,128	2,859
305 University of DC	3,074	3,244e	3,244	3,227i	3,211	3,055i	2,900	2,865
306 Lamar University	3,051	1,988	2,407	2,189	3,052	3,269	2,964	2,898
307 Fort Valley State U	2,989	2,863	2,474	3,009	2,648	2,749	2,711	2,370
308 Hampshire College	2,972	3,185	2,782i	2,380i	1,978	1,447	--	--
309 Ponce School of Medicine	2,953i	2,802	4,450	3,418	3,102	2,591	1,715	1,372
310 N.E. Ohio Univer Col Med	2,918	2,990	2,493	3,193	2,446	1,892	1,747	1,408
Total, 1st 310 institutions	25,526,992	23,980,684	22,755,609	21,891,958	20,762,437	19,701,811	18,624,658	17,292,206
311 Fisk University	2,909	1,969e	1,969	1,800i	1,631	1,502	1,317	641
312 South Carolina State U	2,885	2,855	3,000	4,091i	5,181	4,103	3,665	2,526
313 Delaware State University	2,883	1,947	2,071	1,036	3,987	1,262	1,387	1,330
314 University of Guam	2,819	2,801i	2,789i	2,777i	2,765i	2,753i	2,741i	2,729i
315 Institute of Textile Tech	2,776	2,813	2,781	2,642	2,297	2,412	2,281	2,148
316 Texas Southern U	2,690	3,867	3,820	4,173	2,612	4,220	2,329	2,101
317 US Naval Academy	2,651	3,268i	3,881i	4,494i	5,107i	5,720	5,034i	4,351i
318 Embry-Riddle Aero Univ	2,647	2,540i	2,436i	2,332i	2,228i	2,124	--	--
319 U of NC Greensboro	2,619	1,882	2,028	2,437	2,309	2,360	2,128	1,989
320 U Ctrl Del Caribe Esc Med	2,588i	2,456	2,626	2,897	2,139	1,977	1,294	852
Total, 1st 320 institutions	25,554,459	24,007,082	22,783,010	21,920,637	20,792,693	19,730,244	18,646,834	17,310,873
321 New Mexico Highlands U	2,552i	2,585i	2,585	2,035i	1,485	291	253i	216i
322 West Texas A&M U	2,551	2,131i	1,711i	1,291i	871i	451	550	560
323 Norfolk State University	2,524	1,401	2,239	1,273	671	566	793	752
324 Winston Salem State U	2,468	2,034	1,406	1,123	940	529	583	617
325 E Washington Univ	2,445e	2,445i	2,445i	2,445i	2,445i	2,445	2,646	2,289
326 Seton Hall University	2,400	2,400e	2,400e	2,411e	3,072	2,895i	2,728i	2,561i
327 Ball State University	2,361	3,076	2,667	2,248	2,002	1,322	1,211	1,241
328 Baylor Col of Dentistry	2,359	1,983	1,363	1,131	1,244	754	745	824
329 Texas Woman's University	2,359	2,224	1,818	1,712	1,458	1,380	1,394	1,359
330 U MD Eastern Shore	2,265	2,187	1,980	1,880	1,128	3,045	3,640	1,620
Total, 1st 330 institutions	25,578,743	24,029,548	22,803,624	21,938,186	20,808,009	19,743,922	18,661,377	17,322,912
331 Fordham University	2,247	3,663	2,712	2,067	2,241	1,737	1,936	1,816
332 Occidental College	2,220e	2,220i	2,220i	2,220i	2,220i	2,220	1,722	1,570
333 Gallaudet University	2,212	2,479i	2,743i	3,007i	3,271i	3,535	3,308i	3,081i
334 Santa Clara University	2,189i	2,077i	1,954i	1,895i	1,815e	1,815	2,103	1,579
335 Calif State, Northridge	2,175	3,059i	3,940i	4,821i	5,702i	6,583	--	--
336 Clark University	2,147	2,417	1,954	2,228	2,711	2,311	1,694	1,314
337 Murray State University	2,043	1,490	1,059	1,235	976	1,026	892i	759i
338 Baylor University	2,032	2,233	1,251	1,471	1,179	1,275	1,469	1,067
339 Langston University	2,031	1,828	2,521	3,187	2,046	1,881	1,750	1,310
340 Grambling State U	1,997	2,634	1,455	204	209	210	277i	343i
Total, 1st 340 institutions	25,600,036	24,053,648	22,825,433	21,960,521	20,830,379	19,766,515	18,676,528	17,335,751
341 College of Charleston	1,989	1,853i	1,717i	1,581i	1,445i	1,309	--	--
342 Nova Southeastern U	1,986	1,402	1,258	1,265	1,245	1,120	1,323	1,667
343 Minnesota State, Mankato	1,939	1,730i	1,525i	1,320i	1,115i	910	785i	660i
344 St. Cloud State Univ	1,935	1,617i	1,301i	985i	669i	353	345i	337i
345 U of Nebraska, Omaha	1,879	1,781i	1,685i	1,589i	1,493i	1,397	1,737	1,354
346 U of Detroit Mercy	1,853	2,260	2,555	2,950	2,527	2,069	1,731	1,450
347 Williams College	1,853e	1,853i	1,853i	1,853i	1,853i	1,853	1,716i	1,580i
348 Midwestern University	1,840	2,250	1,512	2,126	1,928	1,482	1,097	1,372
349 SW Missouri State Univ	1,797	1,923i	2,046i	2,169i	2,292i	2,415	2,269i	2,127i
350 Dickinson College	1,789	--	--	--	--	--	--	--
Total, 1st 350 institutions	25,618,896	24,070,317	22,840,885	21,976,359	20,844,946	19,779,423	18,687,531	17,346,298

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
351 CA Sch Prof Psy Fresno	1,777	1,399	1,570	1,424i	1,279	616	875	661
352 Calif State, Fullerton	1,749e	1,749i	1,749i	1,749i	1,749i	603	1,749i	1,749i
353 Spelman College	1,744	2,553	1,084	1,435	1,089	547	444	
354 New England Col Opt	1,734	1,111	723	144	289	333	--	--
355 Milwaukee School of Eng	1,704	1,518i	1,335i	1,152i	969i	786	748	486
356 U of Houston, Clear Lake	1,691	2,513i	3,335i	4,157i	4,979i	5,801	5,422i	5,046i
357 U of Northern Iowa	1,682	1,623	1,944	2,165	1,404	1,079	687	559
358 U of TX Pan American	1,664	1,547i	1,434i	1,321i	1,208i	1,095	1,011i	929i
359 Pittsburg State U	1,631	361	546	281	281	303	321i	337i
360 Amherst College	1,573	1,604i	1,634i	1,664i	1,694i	1,724	2,080	1,751
Total, 1st 360 institutions	25,635,845	24,086,295	22,856,239	21,991,851	20,859,887	19,793,512	18,700,971	17,358,260
361 St John's University (NY)	1,572	2,216	1,903	1,068	1,103	860	1,069	593
362 James Madison University	1,568	1,434i	1,303i	1,172i	1,041i	910	950i	988i
363 CUNY York College	1,526	1,311	952	900	840	930	877	850
364 Cooper Union	1,515e	1,515i	1,515i	1,515i	1,515i	1,515	1,241i	971i
365 Ithaca College	1,499	1,256i	1,013i	770i	527i	284	269i	258i
366 Central State University	1,497	1,786e	1,786	1,789i	1,791	1,889	1,691	1,640
367 Bradley University	1,493	1,291i	1,089i	887i	685i	483	481i	479i
368 Le Moyne-Owen Coll	1,451	--	--	--	--	--	--	--
369 Claflin College	1,403	1,254	764	540	103	180	240	383
370 U WI Stout	1,386	1,306	1,523	1,305	1,500	1,433	2,019	2,282
Total, 1st 370 institutions	25,650,755	24,099,664	22,868,087	22,001,797	20,868,992	19,801,996	18,709,808	17,366,704
371 CUNY H H Lehman Col	1,334i	1,247e	1,199	1,327i	1,454	0e	--	--
372 CUNY Jay Col Crim Just	1,325	688	686	248	181	859	--	--
373 Haverford College	1,303	1,304	1,077	631	920	914i	913i	912i
374 Loyola College	1,303	905	1,023	1,386	1,569	1,158	--	--
375 Duquesne University	1,297	1,396	861	1,440	1,115	589	340	572
376 Smith College	1,295	1,344	1,536i	1,728i	1,920	1,788i	1,658i	1,528i
377 DePaul University	1,233	1,103	1,300	1,182	1,329	1,510	914	786
378 Long Island University	1,221	902	155	238	267	278	217	170
379 U WI La Crosse	1,185	1,045	1,310	1,133	712	708	875	862
380 Tougaloo College	1,180	1,815	1,710i	1,606i	1,502	1,415	1,302	1,262
Total, 1st 380 institutions	25,663,431	24,111,413	22,878,944	22,012,716	20,879,961	19,811,215	18,716,027	17,372,796
381 Alabama State University	1,177	818	1,000	1,000	1,055	534	614	448
382 Barnard College	1,172	943e	934	1,246	1,306	1,440	1,150	758
383 Franklin & Marshall Coll	1,158	1,106i	1,056i	1,006i	956i	906	885i	865i
384 SUNY Col Buffalo	1,157	2,448	2,570	1,604	1,460	1,496	1,430	1,240
385 Wentworth Inst of Tech	1,146	773	1,234	1,155	1,504	1,634	1,287	1,460
386 SUNY Col Plattsburgh	1,133	951	1,207	1,520	1,108	846	1,022	1,217
387 U WI Stevens Point	1,112	1,324	1,649	1,871	1,649	1,179	827	498
388 University of Richmond	1,035	937	807	454	1,080	652	--	--
389 Mount Holyoke College	1,033	980i	936i	892i	848i	804i	760i	716i
390 CA Sch Prof Psy S Diego	1,020	461	517	510	25	66	69	68
Total, 1st 390 institutions	25,674,574	24,122,154	22,890,854	22,023,974	20,890,952	19,820,772	18,724,071	17,380,066
391 Albany State University	1,019	3,687e	3,687e	3,687i	3,687e	3,733	2,339	1,172
392 CUNY Col Staten Island	1,014	794	901	954	7,045	1,209	1,236	1,140
393 Pomona College	1,010	1,088i	1,164i	1,240i	1,316i	1,392	1,531	1,339
394 Swarthmore College	996	869	871	875	1,401	1,128	1,102i	1,078i
395 S Illinois U Edwardsville	966	1,161i	1,355i	1,549i	1,743i	1,937	1,704i	1,474i
396 Arkansas State University	962	--	--	--	--	--	--	--
397 Towson State University	959	247	189	180	146	316	279i	244i
398 Youngstown State Univ	898	752i	607i	462i	317i	172	188i	201i
399 Grand Valley State U	892	1,247	1,810	727	736	830	730	611
400 University of the Pacific	886	2,601	860	970	60	1,124	1,020	1,103
Total, 1st 400 institutions	25,684,176	24,134,600	22,902,298	22,034,618	20,907,403	19,832,613	18,734,200	17,388,428

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
401 U of Health Sci (MO)	885	652	677	963	718	75	105	0
402 The Union Institute	875	1,024i	1,173	1,155	1,008	0	0	0
403 North Carolina Central U	869	869e	863i	835	409	335	755	477i
404 Oakwood College	845	718	371	300	161	186	206	179
405 U of Southern Colorado	824	884	1,183	1,464	1,251	1,228	--	--
406 Lincoln University (PA)	821	1,032	1,135	818i	502	505	1,090	510
407 Bennett College	811	93e	93	112	112	123	914	64
408 SUNY Col Old Westbury	777	991	640	610	505	440	--	--
409 Truman State University	754	764	624	684i	743e	743	720	1,118
410 Salem-Teikyo University	752	--	--	--	--	--	--	--
Total, 1st 410 institutions	25,692,389	24,141,627	22,909,057	22,041,559	20,912,812	19,836,248	18,737,990	17,390,776
411 U of Northern Colorado	736e	799	561	285	252	240	271	132
412 Hofstra University	717	717	726	2,218	1,786	1,073	211	493
413 SUNY Col Oswego	716	803	920	1,056i	1,192	1,001	792	350
414 Chicago State University	713	759	757	740	1,248	1,048	943i	842i
415 Kentucky State University	713	2,139	2,773	2,920	2,665	2,349	2,525	2,026
416 Union College (NY)	694	687	1,016	988	1,054	1,032	1,415	1,254i
417 Elizabeth City State U	684	1,379	1,098	758i	418	1,050	341	0
418 Bates College	682	402	588	340	159	152	--	--
419 West Chester U of PA	672	506	462	1,919	1,113	710	628i	546i
420 Virginia Union University	671	--	--	--	--	--	--	--
Total, 1st 420 institutions	25,699,387	24,149,818	22,917,958	22,052,783	20,922,699	19,844,903	18,745,116	17,396,419
421 SUNY Col of Optometry	668	499	641	537	680	377	329	231
422 U WI Oshkosh	636	574	396	330	380	329	310	344
423 Benedict College	634i	634e	634	850	1,062	600	702	0
424 Lafayette College	625	600i	575i	550i	525i	500	--	--
425 Univ of Southern Maine	614	568i	524i	480i	436i	392e	--	--
426 U WI Eau Claire	613	479	386	377	666	387	350	292
427 SUNY Col Brockport	609	591	532	460e	458	373	406	948
428 Sul Ross State University	602	320	316	176	143	179	139	156
429 Fort Lewis College	599	447	235	438	462	660	--	--
430 Pace University All Cmp	596	0	0	0	0e	0e	--	--
Total, 1st 430 institutions	25,705,583	24,154,530	22,922,197	22,056,981	20,927,511	19,848,700	18,747,352	17,398,390
431 Vassar College	596e	596i	596i	596i	596i	596	622i	644i
432 St. Joseph's Univ	595	504i	413i	322i	231i	140	124i	111i
433 Morehouse College	592e	592e	592	1,074	992	1,119	1,223	926
434 Valparaiso University	571	443	426e	556e	556	490i	424i	358i
435 Bethune Cookman College	566	606	451	0	507	221	626	599
436 Manhattan College	563	689i	814i	939i	1,064i	1,189	1,363i	1,532i
437 Appalachian State U	558	511	511	549	494	358	--	--
438 University of New Haven	558e	558e	507	505i	504	244	--	--
439 Morris Brown College	525e	525	3,652	3,796	1,010	1,227	1,341e	887
440 Furman University	522	665	728	577	283	253	237i	225i
Total, 1st 440 institutions	25,711,229	24,160,219	22,930,887	22,065,895	20,933,748	19,854,537	18,753,312	17,403,672
441 Phila Col Osteopathic Med	516	688	869	882	469	1,095	506	423i
442 Indiana U of PA All Cmp	512e	512	562	349	374	333	--	--
443 Kirksville Col Osteo Med	509	644	747	910	836	829	856	624
444 U WI Green Bay	491	533	590	390	350	449	335	329
445 University of Dallas	490	67	63	0	0	0	13i	25i
446 Fayetteville State U	485	139	503	470i	437	273	187	275
447 University of San Diego	484	248	252	701	641	736	--	--
448 Hamilton College	475e	475i	475i	475i	475i	475	--	--
449 SUNY Col Geneseo	475	461	651	316	518	344	327	214
450 Bowdoin College	474	425	909	459	481	306	319i	330i
Total, 1st 450 institutions	25,716,140	24,164,411	22,936,508	22,070,847	20,938,329	19,859,377	18,755,855	17,405,892

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
451 Lewis and Clark College	468	425i	386i	347i	308i	269	--	--
452 Whitman College	444	485i	522i	559i	596i	633	--	--
453 Western Carolina U	442	332	228	228	263	183	--	--
454 Kettering University	433	413i	396i	379i	362i	345	--	--
455 Connecticut College	432e	432i	432i	432i	432i	432	427i	423i
456 College of the Holy Cross	430	437	1,419	564	431	928	827i	727i
457 Arkansas Tech Univ	419	443i	464i	485i	506i	527	--	--
458 U Osteo Med & Hlth Sci	416	302	316	80	362	396	36	163
459 U WI Whitewater	403	395	356	287	201	204	164	141
460 Claremont Graduate Sch	401	902	1,100	1,017	1,229	1,011	639	571
Total, 1st 460 institutions	25,720,428	24,168,977	22,942,127	22,075,225	20,943,019	19,864,305	18,757,948	17,407,917
461 University of Hartford	397	365	466	357	157	0e	--	--
462 Fairleigh Dickinson U	394	775	140	140e	140e	140	118	859
463 Calif State San Bernardin	390	340i	294i	248i	202i	156	125i	96i
464 Colby College	389	368i	350i	332i	314i	296	--	--
465 U WI Superior	383	494	951	1,611	1,705	1,988	1,881	1,707
466 Monmouth University	382	708	630	776	722	404e	184e	175
467 Texas A&M U-Commerce	361	290	263	282	213	206	176	260
468 Phila Col of Phar & Sci	358	650	695	881	634	755	907	968
469 Mississippi Valley St U	350	563	586	471	319	213	71	64
470 Southern Oregon Univ	341	315	278i	243i	208i	173	130	109
Total, 1st 470 institutions	25,724,173	24,173,845	22,946,780	22,080,566	20,947,633	19,868,636	18,761,540	17,412,155
471 Willamette University	340	--	--	--	--	--	--	--
472 U WI Parkside	334	339	338	319	373	487	587	561
473 Virginia Military Inst	334	429	508	508	394	426	376i	328i
474 Grinnell College	332e	332i	332i	332i	332i	332	340i	347i
475 Savannah State Univ	331	316	317	214	128	173	195	212
476 Abilene Christian Univ	330	360i	387i	414i	441i	468	599	493
477 College of Wooster	323	219	293e	279	220	182	170i	159i
478 Rust College	317	0	0	332	389	346	798	289
479 University of St. Thomas	306	297i	289i	281i	273i	265	--	--
480 US Coast Guard Academy	300	302i	304i	306i	308i	310	281i	252i
Total, 1st 480 institutions	25,727,420	24,176,439	22,949,548	22,083,551	20,950,491	19,871,625	18,764,886	17,414,796
481 Middle Tennessee State U ...	297	465	535	415	327	163	--	--
482 New York Inst Technology	295	325	278	183	346	402	1,297i	2,192i
483 Western U of Hlth Sci	295	58	206	152	168	39	6	6
484 Andrews University	290	381	366	279	247	377	278	255
485 University of Portland	282	306	447	333	257	117	305	169
486 Wilberforce University	280e	280	323	384	505	200	--	--
487 Radford University	273	--	--	--	--	--	--	--
488 U of Missouri Sys Admn	270	209	196	205	740	915	2,969	3,561
489 Kutztown U of PA	265	172	175	224	345	182	146	55
490 Pitzer College	260	240	423	544i	665	290	--	--
Total, 1st 490 institutions	25,730,227	24,178,875	22,952,497	22,086,270	20,954,091	19,874,310	18,769,887	17,421,034
491 Adelphi University	252	433	317	319	243e	243	355	405
492 U of Alaska, SE	248	--	--	--	--	--	--	--
493 U WI River Falls	242	262	146	115	175	404	370	192
494 U of Central Oklahoma	215	196i	180i	164i	148i	132	141i	150i
495 Colorado College	211	235i	257i	279i	301i	323	425	464
496 Selma University	210e	210	250	495i	740	420	798	650
497 Ohio Wesleyan University	197	619	508	319	450	275	--	--
498 Sonoma State University	194	--	--	--	--	--	--	--
499 CA Sch Prof Psy Brk/Alm	193	118	133	72	0	0	0	0
500 Spalding University	189	0	0	15	12	2	--	--
Total, 1st 500 institutions	25,732,378	24,180,948	22,954,288	22,088,048	20,956,160	19,876,109	18,771,976	17,422,895

See explanatory information and SOURCE at end of table.

**Table B-32. Total R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
501 Northeastern Illinois U	186	530	282	1,513	294	197	257	33
502 Dillard University	175e	175	314	145	110	0	0	0
503 SUNY Purchase College	165	241	196	226i	255	206	--	--
504 La Salle University	157	215	329	166i	3	296	--	--
505 Skidmore College	151	173i	192i	211i	230i	249	--	--
506 CA Sch Prof Psy L.A.	149	201	225e	338i	451	427	378	490
507 WV Sch of Osteo Med	146	146	128	121	142	146	112	168
508 Kennesaw State Univ	132	158	132	89	164	121	--	--
509 Regis University	124	117i	111i	105i	99i	93	--	--
510 West Virginia State Col	119	256	10	40	241	190	179	218
Total, 1st 510 institutions	25,733,882	24,183,160	22,956,207	22,091,002	20,958,149	19,878,034	18,772,902	17,423,804
511 SUNY Col Fredonia	118	154	204	382	319	271	283	54
512 Pont Catholic U of PR	111	86	20e	20	0	0	91	217
513 Shaw University	110	147	115	56	56	53	6	0
514 W State Coll, Colorado	110	118i	122i	126i	130i	134	117i	100i
515 Lawrence Tech Univ	104	123i	139i	155i	171i	187	--	--
516 Lake Forest College	103	80i	60i	40i	20i	0	26i	49i
517 MA Col Phar Allied Hlth	89	235	205	275	222	181	156	215
518 Ferris State University	78	--	--	--	--	--	--	--
519 Philander Smith College	73e	73	73	145	157	157	145	154
520 Oral Roberts University	65	59	30	21	85	140	82	37
Total, 1st 520 institutions	25,734,843	24,184,235	22,957,175	22,092,222	20,959,309	19,879,157	18,773,808	17,424,630
521 Providence College	62	44	70	36	71	100	80	103
522 Southern Col of Optometry ...	61	236	414	414	414	414	--	--
523 Augustana College	58e	58i	58i	58i	58i	58	63i	64i
524 Jarvis Christian College	55	83	102	219	219	336	97	60
525 SUNY Col Cortland	55	357	373	244	295	173	118	96
526 Fitchburg State College	34	--	--	--	--	--	--	--
527 Fairmont State College	27	--	--	--	--	--	--	--
528 Fuller Theological Sem	27e	27	11	14	35	110	40	150
529 Marshall University	25	180	234	206	540	604	663	918
530 Bluefield State College	15	--	--	--	--	--	--	--
Total, 1st 530 institutions	25,735,262	24,185,220	22,958,437	22,093,413	20,960,941	19,880,952	18,774,869	17,426,021
531 Coppin State College	6	15	116	208	218	77	103	212
532 Antioch University	0	0	0	81	128	131	92	0
533 Biola University	0	0	0	0	0	0	0	0
534 CA Inst of Integral Stu	0	0	0	0	0	0	--	--
535 Central Michigan U	0	843e	1,043	558e	1,334	1,733	1,715	1,066
536 Forest Inst of Prof Psy	0	0	5	8	48	2,717	--	--
537 Golden Gate University	0	0	0	0	0	0	--	--
538 Knoxville College	0	163e	163	124i	85	23e	33i	42i
539 Maharishi U of Mgmt	0	0	0	699	776	0e	--	--
540 Pacific University	0	0	0	0	0	0	22i	44i
Total, 1st 540 institutions	25,735,268	24,186,241	22,959,764	22,095,091	20,963,530	19,885,633	18,776,834	17,427,385
541 Pepperdine University	0	0	0	0	0	0	--	--
542 St. Mary's University	0	--	--	--	--	--	--	--
543 Talladega College	0e	0	0	0	0	0	0	0
544 U of Alaska, Anchorage	0e	--	--	--	--	--	--	--
545 US International U	0	0	0	0	0	0	0	0
546 Widener U All Campuses	0	0	0	0	0	0	54i	105i
547 Wiley College	0	--	--	--	--	--	0	0
Total, 1st 547 institutions	25,735,268	24,186,241	22,959,764	22,095,091	20,963,530	19,885,633	18,776,888	17,427,490
Total, all other sampled insts.	0	1,360	2,210	2,811	2,286	64,930	40,939	157,789

¹ Johns Hopkins University includes Applied Physics Laboratory, with \$443 million in total R&D expenditures.

² These data do not include R&D expenditures at university-associated federally funded research and development centers. See tables B-73 and B-74.

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

Page 1 of 11

Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
Total, all institutions	15,076,571	14,419,502	13,802,267	13,297,240	12,618,208	11,956,290	11,092,412	10,234,210
1 Johns Hopkins U ¹	752,983	724,526	710,119	706,049	711,692	673,601	666,696	641,239
2 Stanford University	342,426	332,272	295,373	273,157	268,559	254,379	265,687	243,219
3 U of Washington	336,748	320,784	312,695	291,284	281,033	268,819	257,840	221,124
4 University of Michigan	311,450	296,028	281,062	275,956	264,722	249,951	223,452	206,276
5 MA Institute of Tech ²	310,741	311,396	271,544	273,543	270,718	267,414	237,972	237,667
6 U CA San Diego	262,303	274,860	291,917	284,445	266,166	243,149	219,843	200,451
7 Harvard University	251,876	222,612	203,047	203,965	190,183	181,969	174,632	156,014
8 U of Pennsylvania	247,914	217,125	216,167	200,895	186,409	173,593	159,574	144,451
9 U WI Madison	240,513	233,760	233,174	229,381	225,403	213,955	199,816	183,652
10 U CA Los Angeles	233,702	238,919	236,635	201,773	190,202	189,065	180,743	167,885
Total, 1st 10 institutions	3,290,656	3,172,282	3,051,733	2,940,448	2,855,087	2,715,895	2,586,255	2,401,978
11 Columbia University	229,723	212,180	195,652	206,495	203,101	182,696	174,777	163,561
12 University of Colorado	228,342	192,201	177,517	169,666	158,163	138,584	129,894	119,068
13 U CA San Francisco	219,912	229,323	221,864	224,271	213,252	210,148	202,283	190,936
14 Yale University	205,046	189,124	176,994	174,868	171,425	168,900	157,345	149,506
15 University of Minnesota	204,741	200,149	198,927	194,819	181,039	174,716	165,926	164,887
16 Cornell University ²	204,187	205,521	203,082	207,391	193,981	195,229	180,361	173,478
17 U of Southern California	190,547	191,809	179,281	163,606	149,735	149,965	141,713	132,230
18 Washington University	187,173	186,993	155,197	146,921	138,299	129,482	123,863	112,475
19 Pennsylvania State U	186,274	185,206	190,688	187,481	168,679	160,152	151,877	146,212
20 California Inst of Tech ²	177,748	164,225	142,474	120,723	112,502	103,888	99,198	100,820
Total, 1st 20 institutions	5,324,349	5,129,013	4,893,409	4,736,689	4,545,263	4,329,655	4,113,492	3,855,151
21 Duke University	172,532	155,894	149,631	148,526	148,350	136,377	125,742	114,879
22 U of NC Chapel Hill	171,505	153,985	157,034	156,626	149,047	130,920	113,774	103,485
23 U CA Berkeley ²	171,135	186,349	168,171	157,826	152,528	156,394	148,954	140,261
24 U of Illinois Urbana	168,871	156,366	145,514	139,078	138,734	141,149	129,086	118,748
25 University of Pittsburgh	168,511	160,833	149,960	144,487	148,989	141,934	121,077	99,932
26 U of Alabama Birmingham	166,830	150,501	125,804	107,440	98,719	94,762	82,392	76,317
27 U TX Austin	165,082	151,954	147,808	143,939	149,586	139,126	124,614	113,192
28 University of Arizona	161,999	152,221	154,004	168,791	145,696	113,423	105,912	101,818
29 Texas A&M University	144,938	145,066	148,675	136,734	136,942	122,533	112,918	97,727
30 Case Western Reserve U	132,274	120,992	109,901	107,192	97,302	91,867	83,387	76,390
Total, 1st 30 institutions	6,948,026	6,663,174	6,349,911	6,147,328	5,911,156	5,598,140	5,261,348	4,897,900
31 University of Rochester ²	130,773	118,477	112,933	125,897	135,863	130,898	110,413	106,874
32 U MD College Park	129,198	102,928	99,688	94,071	86,051	85,041	82,469	77,866
33 Northwestern University	127,911	108,292	100,810	90,387	83,684	77,687	69,241	62,718
34 University of Chicago ²	125,982	121,683	114,123	104,587	102,530	95,930	97,182	93,683
35 Ohio State University	124,177	122,582	118,811	122,660	113,186	109,069	97,940	88,542
36 Emory University	118,045	108,522	95,237	92,724	88,735	80,424	69,894	60,586
37 U of Iowa	115,312	108,534	105,646	103,115	99,536	93,483	88,360	81,007
38 U CA Davis	114,912	123,673	130,188	122,645	112,718	105,255	91,318	79,961
39 Georgia Institute of Tech	113,643	112,544	116,155	104,892	97,075	98,398	101,295	101,476
40 Baylor Col of Medicine	110,610	97,829	92,294	94,197	92,404	87,623	85,734	78,752
Total, 1st 40 institutions	8,158,589	7,788,238	7,435,796	7,202,503	6,922,938	6,561,948	6,155,194	5,729,365
41 University of Florida	106,510	94,328	86,973	79,361	79,630	71,704	67,590	66,777
42 Vanderbilt University	106,325	98,744	95,684	92,185	92,439	83,683	78,426	71,021
43 Boston University	104,428	97,522	87,946	83,473	72,551	71,593	66,677	60,166
44 University of Miami	101,492	101,516	96,716	97,111	91,563	91,472	81,856	69,847
45 New York University	101,426	94,117	90,010	93,759	89,013	93,633	87,081	81,896
46 University of Utah	100,722	99,322	93,788	83,554	81,263	83,237	79,386	68,769
47 U TX SW Med Ctr Dallas	97,200	89,357	81,468	78,892	71,468	67,943	61,499	57,746
48 Indiana University	95,840	95,931	90,881	86,041	81,657	77,377	69,871	61,831
49 Carnegie Mellon U ²	95,046	91,527	91,830	84,758	87,790	78,666	69,848	65,290
50 University of Virginia	93,328	82,488	75,256	85,244	83,670	73,412	68,151	61,060
Total, 1st 50 institutions	9,160,906	8,733,090	8,326,348	8,066,881	7,753,982	7,354,668	6,885,579	6,393,768

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
51 Purdue University	92,844	91,969	91,632	93,256	82,148	72,954	68,224	67,810
52 SUNY Stony Brook	91,531	86,568	79,570	76,505	72,673	68,023	63,608	58,977
53 University of Cincinnati	90,307	78,292	72,543	55,107	56,361	57,394	56,375	47,445
54 Univ of Hawaii Manoa	86,886	72,421	66,902	44,238	39,392	41,362	47,684	44,857
55 Georgetown University	84,801	84,198	81,704	74,328	54,992	48,463	42,659	41,597
56 University of New Mexico	84,365	76,978	76,850	90,897	51,780	42,866	40,033	30,141
57 VA Polytech Inst & St U	82,734	87,657	80,319	79,074	73,490	61,708	51,281	47,866
58 Oregon State University	82,416	80,131	79,977	68,687	65,069	61,118	59,739	51,099
59 Michigan State University	81,146	82,977	77,243	77,499	73,855	70,294	66,466	61,646
60 Colorado State University	80,451	79,393	74,930	75,216	66,464	68,733	64,679	55,689
Total, 1st 60 institutions	10,018,387	9,553,674	9,108,018	8,801,688	8,390,206	7,947,583	7,446,327	6,900,895
61 Yeshiva University	80,000	77,936	73,396	72,132e	70,718	71,771	68,152	67,831
62 NC State University	79,533	69,473	74,485	68,675	69,608	62,470	50,501	46,894
63 U of MD Baltimore	78,037	72,100	65,211	59,596	59,727	53,556	48,088	43,682
64 SUNY Buffalo	76,037	78,092	87,813	75,713	81,814	80,723	77,628	68,945
65 University of IL Chicago	73,797	70,739	58,991	57,528	57,074	51,445	48,484	43,203
66 Oregon Health Sciences U	71,054i	68,637	51,338	49,429	43,629	38,913	33,548	28,897
67 UT-Houston Hlth Sci Ctr	70,446	67,205	61,456	54,762	46,821	38,664	36,478	32,778
68 Mt Sinai Sch Med	69,995	60,914	61,599	58,991	55,188	49,800	50,853	42,035
69 Rutgers the State U NJ	69,829	68,225	67,588	72,567	68,149	55,169	56,625	48,822
70 U of Tennessee System	69,793	74,049	73,724	76,294	82,288	76,578	72,047	63,575
Total, 1st 70 institutions	10,756,908	10,261,044	9,783,619	9,447,375	9,025,222	8,526,672	7,988,731	7,387,557
71 Princeton University ²	69,005	69,667	69,386	63,903	58,544	54,369	55,722	52,335
72 U CA Santa Barbara	68,408	74,149	73,400	63,443	59,336	54,057	52,777	46,647
73 Louisiana St U, All Camp	67,090	65,257	64,524	61,456	52,064	52,598	48,641	57,059
74 U CA Irvine	65,902	71,472	72,994	69,655	67,245	64,546	55,331	52,652
75 Woods Hole Oceanograph	64,765	66,386	61,820	72,759	74,219	73,546	74,229	67,154e
76 U TX MD Anderson Cnrc	63,074	49,702	42,794	44,711	42,416	41,158	34,492	32,314
77 Tufts University	61,167	55,421	53,508	50,481	49,672	46,625	42,112	39,113
78 Allegheny U of Hlth Sci	61,102	48,062	27,723	23,905	26,324	26,664	27,711	22,452
79 University of Kentucky	60,760	62,128	51,450	50,014	48,801	46,774	39,828	31,636
80 U Med & Dent NJ	59,828	57,471	47,505	45,734	40,687	35,524	39,092	38,768
Total, 1st 80 institutions	11,398,009	10,880,759	10,348,723	9,993,436	9,544,530	9,022,533	8,458,666	7,827,687
81 Wayne State University	57,646	53,707	46,264	46,246	43,354	40,367	35,569	30,583
82 Wake Forest University	56,705	54,287	55,845	50,719	36,722	41,861	37,505	33,385
83 New Mexico State Univ	56,587	57,165	53,552	57,210	59,632	64,821	62,872	57,522
84 U TX Hlth Sci Ctr San Ant	55,004	53,478	51,203	54,433	51,671	48,467	41,048	32,770
85 Utah State University	54,903	49,594	43,764	48,431	46,128	45,426	54,904	61,762
86 University of Georgia	54,712	54,364	56,254	57,509	55,005	52,085	48,962	45,019
87 University of Oklahoma	54,451	45,756	42,679	37,112	35,266	33,298	29,733	25,786
88 U MA Worcester	53,766	43,350	40,198	36,970	34,923	33,820	35,413	--
89 University of Connecticut	53,189	49,503	53,009	50,096	48,286	49,051	45,967	46,156
90 Tulane University	52,924	49,708	49,720	60,837	42,354	36,940	33,304	36,713
Total, 1st 90 institutions	11,947,896	11,391,671	10,841,211	10,492,999	9,997,871	9,468,669	8,883,943	8,197,383
91 Thomas Jefferson U	51,728	49,091	51,475	49,335	43,215	38,293	28,861	23,100
92 Iowa State University ²	51,196	52,938	54,904	58,766	56,439	50,695	45,144	42,793
93 University of Kansas	50,567	46,733	41,858	42,209	40,816	37,738	31,992	26,419
94 Florida State University	50,451	52,945	39,527	45,947	39,775	38,690	27,649	28,495
95 U TX Med Br Galveston	48,588	42,006	38,323	33,204	32,775	30,555	24,281	20,974
96 Virginia Commonwealth U	48,167	44,982	45,454	46,694	47,923	48,777	45,891	44,974
97 U of Missouri Columbia	45,448	43,335	38,938	32,420	31,299	29,612	28,047	27,463
98 George Washington U	45,072	34,182	30,490	28,031	24,379	27,698	28,158	23,715
99 Dartmouth College	45,053	43,154	39,682	39,059	41,762	44,092	38,791	34,317
100 Washington State U	44,510	45,030	48,807	49,043	45,691	43,678	38,213	32,257
Total, 1st 100 institutions	12,428,676	11,846,067	11,270,669	10,917,707	10,401,945	9,858,497	9,220,970	8,501,890

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
101 Brown University	44,412	43,664	42,139	37,432	36,864	38,851	37,856	35,571
102 The Rockefeller Univ	43,845	43,979	37,369	38,993	39,990	36,854	37,832	36,759
103 Medical Col of Wisconsin	43,831	39,364	34,527	31,098	31,459	31,261	27,668	25,062
104 U MA Amherst	43,196	40,925	37,969	32,126	32,730	32,065	33,408	--
105 U of South Carolina	42,586	37,005	51,269	44,292	37,918	28,250	23,743	23,084
106 Mississippi State U	42,004	34,928	34,637	33,158	33,918	29,616	29,746	25,751
107 U of Nebraska Lincoln	41,888e	41,269	32,352	36,897	35,471	23,930	25,382	27,499
108 Arizona State University	41,359	37,700	38,947	35,215	30,699	30,032	33,148	26,246
109 Med U of South Carolina	36,473	37,790	40,637	36,417	28,507	21,471	17,174	14,367
110 University of Dayton	36,329	36,196	34,413	37,842	39,994	38,333	34,927	31,132
Total, 1st 110 institutions	12,844,599	12,238,887	11,654,928	11,281,177	10,749,495	10,169,160	9,521,854	8,747,361
111 U of South Florida	35,930	31,068	29,751	29,558	19,910	16,718	18,010	23,578
112 Rice University	34,772	37,935	33,238	26,429	25,672	22,016	21,356	22,838
113 SUNY Albany	33,894	41,190	48,395	24,468	23,607	27,318	25,988	12,204
114 University of Delaware	33,688	32,031	29,509	27,352	26,250	26,170	21,629	20,053
115 U of Rhode Island	33,308	35,733	34,829i	33,927i	33,025	32,609	25,480e	23,980
116 US Naval Postgrad School	33,308	31,618	29,873	27,155	26,225	23,640	20,171	19,264
117 U of Alaska Fairbanks	31,505	28,127	30,351	37,285	40,770	41,616	32,066	34,335
118 University of Vermont	31,460	34,042	31,521	32,932	33,695	31,530	32,757	30,860
119 U CA Santa Cruz	29,849	27,839	31,727	26,043	23,802	21,821	20,237	15,805
120 Syracuse University	29,200	23,780i	18,361	19,341	19,309	16,818	14,715	14,192
Total, 1st 120 institutions	13,171,513	12,562,250	11,972,483	11,565,667	11,021,760	10,429,416	9,754,263	8,964,470
121 Temple University	28,793	26,374	28,720	28,303	27,140	26,548	26,869	28,873
122 Rush University	28,444	24,382	22,480	18,124	14,831	12,787	9,130	7,010
123 Clemson University	28,199	28,092	28,109	28,734	24,133	23,299	18,771	16,594
124 Brandeis University	28,098	25,233	23,233	22,741	21,585	21,825	21,800	21,280
125 Auburn University	27,706	27,412	31,401	27,544	27,747	17,438	15,415	15,279
126 University of Oregon	27,041	26,020	26,411	23,789	22,204	21,465	21,002	19,311
127 Kansas State University	27,001	25,781	24,769	25,266	21,547	19,582	18,583	15,726
128 Tuskegee University	26,894	29,930	8,231	7,200	6,694	5,154	4,498	4,137
129 U of New Hampshire	25,913	24,128	23,305	21,072	25,032	23,635	21,591	18,516
130 West Virginia University	24,985	29,443	30,800	30,258	34,622	31,092	27,740	19,582
Total, 1st 130 institutions	13,444,587	12,829,045	12,219,942	11,798,698	11,247,295	10,632,241	9,939,662	9,130,778
131 Clark Atlanta University	24,079	25,943	25,345	15,821	11,025	10,484	9,985	6,538
132 Montana St U Bozeman	23,982	19,707	17,667	17,233	15,738	14,096	13,443	10,109
133 U of Alabama Huntsville	23,772	21,731	26,141	25,417	21,583	24,983	24,432	21,761
134 Saint Louis University	23,341	23,218	21,483	19,351	18,120	18,583	17,708	16,358
135 Oklahoma State University	23,220	21,455	25,034	18,951	20,440	20,840	15,384	15,756
136 University of Notre Dame	23,053	19,173	18,886	17,424	16,358	16,415	15,058	13,587
137 U CA Riverside	22,988	28,451	27,727	25,127	23,743	19,126	17,167	16,031
138 University of Houston	22,018	21,695	25,448	22,633	22,830	34,350	21,881	20,140
139 U PR Mayaguez	21,903	21,052	19,568	18,048	9,369	8,487	9,117	11,727i
140 U Arkansas Medical Sci	21,857	19,249	16,796	16,117	13,410	10,964	9,642	7,807
Total, 1st 140 institutions	13,674,800	13,050,719	12,444,037	11,994,820	11,419,911	10,810,569	10,093,479	9,270,592
141 Rensselaer Polytech Inst	21,774	22,785	24,748	24,250	22,090	22,106	24,313	23,372
142 Howard University	21,501	25,884	26,253	21,137	15,196	14,819	13,976	10,754
143 Northeastern University	21,454	16,321	14,706	17,113	16,037	15,339	12,841	11,529i
144 NJ Inst of Technology	21,127	21,287	20,561	15,109	12,572	8,275	5,778	4,080
145 U of Nevada Reno	20,383	20,813	20,971	21,377	18,799	17,097	14,085	10,858
146 San Diego St University	19,721	20,237	17,181	16,436	12,268	16,862	15,679	16,744
147 University of Idaho	18,352	17,416i	16,481	18,239	16,586	15,877	16,601	15,149
148 SUNY Hlth Sci Ctr Brklyn	18,318	18,996	18,685i	18,374	16,695	17,916	15,896	17,949
149 University of Wyoming	17,806	15,003	14,991	15,373	15,115	14,575	13,298	12,782
150 Loyola U of Chicago	17,685	14,771	16,831	20,209i	23,587	18,230	18,071	14,703
Total, 1st 150 institutions	13,872,921	13,244,232	12,635,445	12,182,437	11,588,856	10,971,665	10,244,017	9,408,512

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
151 Texas Tech University	17,481	14,901	13,013	11,450	11,360	10,897	11,121	9,323
152 George Mason University	17,268	14,652	16,430	14,939	12,679	10,498	8,439	5,601
153 U Mississippi, All Camp	16,463	15,696	15,571	17,466	15,836	14,917	16,097	16,937
154 U Arkansas Main	16,156	15,772	16,019	17,231	16,040	14,398	12,421	12,371
155 C R Drew U of Med & Sci	16,052e	16,052e	15,288	10,500	7,674	6,483	5,949	5,311
156 Florida A&M University	15,726	22,547	20,118	19,430	20,730	18,954	18,698	15,592
157 U of NE Med Ctr Omaha	15,663	13,990	14,029	13,375	12,256	10,131	9,740	10,518
158 Desert Research Institute	15,400	13,900	14,600	15,867	15,272	15,514	11,508	9,795
159 University of Louisville	15,067	13,521	13,306	9,782	9,274	8,924	7,267	6,750
160 Oregon Grad Inst Sci Tech	14,996e	14,282	11,215	11,512	10,458	9,591	7,138	6,962
Total, 1st 160 institutions	14,033,193	13,399,545	12,785,034	12,323,989	11,720,435	11,091,972	10,352,395	9,507,672
161 The University of Alabama	14,909	13,118	12,238	12,236	11,482	8,583	6,877	5,427
162 CUNY City College	14,437	15,221	16,169	15,512	13,585	14,785	12,175	11,220
163 Florida International U	14,243	13,828	13,415	13,030	10,936	9,289	--	--
164 Michigan Tech University	13,938	12,941	12,603	12,807	10,984	9,777	8,242	6,870
165 New York Medical College	13,639	11,866	11,657	13,778	14,913	13,468	13,061	11,056
166 U of Central Florida	13,502	6,970	18,714	20,077	16,549	12,527	9,151	10,406
167 Univ of North Dakota	13,404	17,775	23,976	16,157	16,660	16,467	15,895	14,470
168 Medical Col of Georgia	13,127	11,904	11,338	11,007	9,121	7,713	7,747	8,081
169 U of Maine	13,028	15,066	16,211	15,789	11,386	8,959	8,975	10,062
170 Lehigh University	13,019	14,882	22,409	21,410	15,363	16,038	17,426	11,870
Total, 1st 170 institutions	14,170,439	13,533,116	12,943,764	12,475,792	11,851,414	11,209,578	10,451,944	9,597,134
171 NC A&T State University	12,924	13,362	12,521	12,501	10,132	8,759	8,196	8,205
172 Boston College	12,778	11,207	11,137	9,990	7,938	8,151	8,695	8,673
173 U MD Baltimore County	12,618	9,816	8,135	7,131	6,080	4,845	4,893	4,723
174 Morehouse School of Med	12,461	12,099	11,747	6,996	6,663	6,597	6,155	5,652i
175 Old Dominion University	12,346	10,736	9,266	7,968	7,888	7,050	6,284	6,576
176 U MA Lowell	12,259	11,560	10,257	8,097	7,281	5,959	6,872	6,541
177 Mercer University	12,043	10,741	10,832	9,178	11,115	10,241	7,325	6,388
178 U PR Med Sci Campus	11,843	12,978	12,191	12,433	11,973	9,775	14,619	8,610
179 San Jose State University	11,825e	11,825i	11,825i	11,825i	11,825i	11,825	8,948	7,978
180 U MD Biotechnology Inst	11,789	8,719	7,529	7,037	6,079	--	--	--
Total, 1st 180 institutions	14,293,325	13,646,159	13,049,204	12,568,948	11,938,388	11,282,780	10,523,931	9,660,480
181 The University of Montana	11,748	11,554	11,591	10,149	8,675	7,303	5,024	3,692
182 U TX Arlington	11,294	26,829	14,804	8,692	4,637	3,995	3,296	2,741
183 Georgia State University	11,284	7,544	5,818	6,277	6,771	5,826	4,021	3,516
184 Col of William & Mary	11,097	10,911	13,020	11,731	10,426	10,335	8,209	7,283
185 Meharry Medical College	11,004e	11,004	10,208	10,154	9,074	6,673	7,014	
186 Drexel University	10,929	10,545	11,613	9,444	11,006	11,335	9,869	7,559
187 Western Illinois U	10,867	8,804	9,016	9,045	8,983	10,096	8,133i	6,170i
188 Wright State University	10,832	10,001	9,502	9,619	9,624	10,081	8,655	8,047
189 U TX El Paso	10,758	12,873	10,471	9,511	9,085	9,229	7,433	6,972
190 Alabama A&M University	10,518	8,423e	8,249i	8,075	8,954	7,295	5,635	5,481
Total, 1st 190 institutions	14,403,656	13,764,647	13,154,292	12,661,699	12,026,703	11,367,349	10,590,879	9,718,955
191 Ohio University	10,323	9,790	8,046	7,587	5,836	5,168	4,856	4,539
192 Illinois Inst of Tech	9,946	11,668	11,183	9,119	6,738	6,349	4,165	4,114
193 North Dakota State U	9,787	6,432	11,683	11,684	10,877	8,756	8,677	7,100
194 U of Nevada Las Vegas	9,713	9,221	11,142	10,464	9,543	10,585	10,006	17,568
195 Brigham Young University	9,694	9,223i	8,752e	8,615	8,126	7,967	8,106	7,082
196 Prairie View A&M U	9,612	9,315	10,325	6,284	5,693	4,885	4,824	3,373
197 Florida Atlantic U	9,582	7,653	6,500	9,643	6,797	5,655	4,431	2,953
198 U Southern Mississippi	9,536	7,766	7,587	7,500	7,291	6,351	4,820	6,736
199 U of South Alabama	9,451	9,709	9,747	9,135	8,838	8,270	7,769	7,798
200 Eastern VA Med School	9,449	10,618	10,203	9,824	10,162	9,753	6,966	7,093
Total, 1st 200 institutions	14,500,749	13,856,042	13,249,460	12,751,554	12,106,604	11,441,088	10,655,499	9,787,311

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
201 University of Denver	9,385	7,888	7,415	9,877	6,144	7,555	7,236	6,484 i
202 NM Inst Mining & Tech	8,959	10,496	7,205	8,447	7,582	5,373	7,682	6,646 i
203 U WI Milwaukee	8,936	8,156	8,026	7,749	7,977	7,455	7,641	6,808
204 Colorado School of Mines	8,694	9,330	9,534	8,847 i	8,161	7,050	6,348	6,487
205 Kent State University	8,251	7,577	7,729	6,506	6,005	6,363	5,806	5,171
206 U TX Dallas	8,115	6,719	5,583	6,404 i	7,224	8,031	7,676	4,822
207 Med Col of Ohio	8,107	9,766	9,559	9,243	8,726	8,286	7,083	5,970
208 Tennessee State U	7,978	7,569	7,983	6,478	6,031	5,245	4,465	3,701
209 U of Missouri Rolla	7,934	8,080	7,542	5,834	6,472	6,128	4,819	4,360
210 Loma Linda University	7,834	8,061	5,878	5,416	5,082	4,963	4,036	2,529
Total, 1st 210 institutions	14,584,942	13,939,684	13,325,914	12,826,355	12,176,008	11,507,537	10,718,291	9,840,289
211 Shrn IL U Carbondale	7,801	8,632	8,836	10,100	9,931	7,437	7,382	7,092
212 Unif Svcs U of Hlth Sci	7,547	9,218	24,621	25,858	18,124	22,319	20,377 i	18,436 i
213 U MD Ctr for Environ Sci	7,440	6,240	5,998	5,952	5,452	5,413	4,321	2,857
214 Catholic U of America	7,161	6,910	5,901	6,467	6,058	5,796	5,388	6,301
215 Southern U A&M All Camp ...	6,983	7,774	7,724	7,480	4,620	4,828	4,407	4,332
216 Portland State University	6,881	5,960	5,675	4,659	4,377	3,869	2,771	2,580
217 Northern Arizona U	6,812	8,176	6,938	6,469	5,614	6,348	4,180	3,563
218 Hampton University	6,801	7,777	3,854	6,130	5,078	4,597	3,272	3,345
219 Stevens Inst of Tech	6,667	6,174	9,222	8,677	7,644	10,552	5,435	3,116
220 Albany Medical College	6,545	5,632	6,691	8,686	8,344	8,564	6,740	6,291
Total, 1st 220 institutions	14,655,580	14,012,177	13,411,374	12,916,833	12,251,250	11,587,260	10,782,564	9,898,202
221 SUNY Hlth Sci Ctr Syrcse	6,487	7,188	6,764	6,854	6,555	7,238	7,500	10,667
222 CUNY Hunter College	6,414	6,895	6,083	6,152	7,156	6,875	5,687	5,524
223 SUNY Binghamton	6,205	6,218	5,661	5,659	5,100	5,005	4,611	3,130
224 U of Missouri Kansas City	6,199	5,380	5,087	4,506	4,758	4,967	4,419	3,123
225 The University of Memphis ...	5,849	5,413	4,954	4,565	4,027	3,504	3,586	2,954
226 U of Southwestern LA	5,834	4,699	2,936	2,307	1,998	1,130	1,007	929
227 South Dakota State U	5,812	5,650	5,500	5,622	5,711	5,033	4,751	4,102
228 U North TX Health Sci Ctr	5,645	5,273	4,847	3,985	4,045	3,753	2,804	3,135
229 U PR Rio Piedras	5,460	4,275	3,866	3,315	3,660	3,616	2,626	2,860
230 University of Toledo	5,366	2,937	3,506e	3,187	3,505	3,727	3,304	2,997
Total, 1st 230 institutions	14,714,851	14,066,105	13,460,578	12,962,985	12,297,765	11,632,108	10,822,859	9,937,623
231 Xavier University of LA	5,355	5,473	5,106	8,979	4,176	3,145	2,365	2,424
232 Jackson State University	5,326	3,960	4,702	4,461 i	4,220	3,831	3,849	3,429
233 Worcester Polytech Inst	5,230	7,315	6,967	8,552	9,584	9,164	6,018	3,050
234 Idaho State University	5,200	1,128	2,054	1,471	1,489	1,149	742	532
235 CA St U Long Beach	5,190 i	5,013e	5,013	4,859 i	4,712 i	4,565 i	4,418 i	4,271 i
236 Alcorn State University	5,119	4,242 i	3,365	3,202 i	3,039	3,038	2,132	1,665
237 U TX San Antonio	5,112	11,553	4,111	3,398 i	2,685	2,185	--	--
238 Finch U Hlth Sci Chicago	5,022e	5,022	5,209	4,789	5,214	5,033	4,167	3,650
239 Southern Methodist U	4,836	4,543	6,007	4,352	4,984	4,932	5,138	5,966
240 Northern Illinois U	4,810	4,146	4,809	5,764	6,238	5,663	5,384	4,617
Total, 1st 240 institutions	14,766,051	14,118,500	13,507,921	13,012,812	12,344,106	11,674,813	10,857,072	9,967,227
241 Bowie State University	4,403	2,672	49	93	937	465	425	234
242 Johnson C Smith U	4,299	1,546	1,083	1,083	1,803	377	276	454
243 U of NC at Charlotte	4,150	3,779 i	3,411 i	3,043 i	2,675 i	2,307	2,208	1,226
244 U of NC at Wilmington	4,098	4,212 i	4,326 i	4,440 i	4,554 i	4,668	--	--
245 Creighton University	4,096	5,129	5,046	4,474	4,653	3,962	3,478	2,580
246 University of Akron	4,042	5,146	4,793	4,231	4,016	4,329	4,243	3,411
247 U.S. Air Force Academy	4,033	3,616 i	3,201 i	2,786 i	2,371 i	1,956	1,564 i	1,173 i
248 East Carolina University	4,027	3,904	4,079	4,964	5,188	4,392	3,605	3,612
249 Western Michigan U	4,023	3,618	3,336	2,753	2,699	2,383	1,436	845
250 University of Tulsa	4,002	4,190	5,104	3,441	3,319	2,337	1,369	1,264
Total, 1st 250 institutions	14,807,224	14,156,312	13,542,349	13,044,120	12,376,321	11,701,989	10,875,676	9,982,026

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
251 U of Missouri St Louis	3,975	3,650	3,349	2,840	2,559	1,818	1,495	1,046
252 Morgan State University	3,960	3,825 <i>i</i>	3,691 <i>i</i>	3,557 <i>i</i>	3,423	1,456	1,179	683
253 Calif Polytechnic	3,948	3,301 <i>i</i>	2,658 <i>i</i>	2,015 <i>i</i>	1,372 <i>i</i>	729	579	534
254 Inst Paper Sci and Tech	3,746 <i>e</i>	3,746 <i>e</i>	3,043 <i>i</i>	2,341	1,629	1,311	1,317	1,408
255 U MA Dartmouth	3,731	2,884	3,433	3,221	2,771	1,802	1,425	--
256 Cleveland State U	3,696 <i>e</i>	3,588 <i>e</i>	3,522 <i>i</i>	3,457	4,620	5,187	5,042	4,528
257 SUNY Grad Sch & U Ctr	3,573	3,445	3,077 <i>i</i>	2,709 <i>i</i>	2,341	2,386	2,811	2,161
258 Wesleyan University	3,570	3,731	3,889	2,651	2,710	2,611	2,588	1,458
259 Marquette University	3,510	2,421	2,270	2,394	2,640	2,524	2,612	2,068
260 SD Sch of Mines & Tech	3,221	2,990	3,278	3,369	2,903	2,556	2,362	2,056
Total, 1st 260 institutions	14,844,154	14,189,893	13,574,559	13,072,674	12,403,289	11,724,369	10,897,086	9,997,968
261 Oakland University	3,218	3,303	3,222	3,860	3,202	3,026	3,013	2,852
262 American University	3,163	2,672	2,864	2,807	3,052	3,569	3,926	4,426
263 U MA Boston	3,160	3,075	2,706	2,454	2,382	2,133	2,019	--
264 Western Kentucky Univ	3,130	2,606 <i>i</i>	2,083 <i>i</i>	1,560 <i>i</i>	1,037 <i>i</i>	514	429 <i>i</i>	347 <i>i</i>
265 Clarkson University	3,010	3,368	3,794	4,793	6,115	5,795	4,229	4,229
266 U Arkansas Pine Bluff	2,911	2,838	2,747	3,661	2,341	2,164	2,372	2,176
267 Fisk University	2,909	1,969 <i>e</i>	1,969	1,741 <i>i</i>	1,514	1,418	1,235	616
268 Teachers Col, Columbia U	2,900	560	262	226 <i>i</i>	190	0	138	95
269 Polytechnic University	2,843	3,485	6,329	6,863	6,872	6,394	5,600	5,600
270 Univ of West Florida	2,806	2,356 <i>i</i>	1,908 <i>i</i>	1,460 <i>i</i>	1,012 <i>i</i>	564	569	468
Total, 1st 270 institutions	14,874,204	14,216,125	13,602,443	13,102,099	12,431,006	11,749,946	10,920,616	10,018,777
271 Virginia State University	2,792	3,453	2,735	2,599	4,529	4,761	6,031	5,347
272 Ponce School of Medicine	2,757 <i>i</i>	2,607	4,212	3,150	2,874	2,436	1,573	1,347
273 Delaware State University	2,734	1,833	1,787	999	3,686	1,262	1,253	915
274 SUNY Col Env Sci Frstry	2,715	2,690	3,021	3,186 <i>i</i>	3,351	3,177	2,427	2,126
275 Miami University (OH)	2,687	2,876	2,633	2,314	2,789	2,343	1,918	2,050
276 U of South Dakota	2,669	2,239	2,350	1,632	1,357	1,511	981	759
277 Wichita State University	2,646	2,602	2,196	2,551	1,752	2,315	2,575	1,768
278 University of North Texas	2,621	3,703	3,492	3,696	2,858	2,277	1,932	1,942
279 US Naval Academy	2,534	3,156 <i>i</i>	3,777 <i>i</i>	4,398 <i>i</i>	5,019 <i>i</i>	5,640	4,969 <i>i</i>	4,302 <i>i</i>
280 Sam Houston State U	2,527	4,974	4,495	3,094 <i>i</i>	1,694	380	220	229
Total, 1st 280 institutions	14,900,886	14,246,258	13,633,141	13,129,718	12,460,915	11,776,048	10,944,495	10,039,562
281 Texas Southern U	2,504	3,707	3,474	3,474	2,353	3,652	2,028	1,810
282 Texas Christian U	2,493	2,541	2,159	1,972	2,600	2,693	2,765	2,430
283 Illinois State University	2,468 <i>e</i>	2,420	2,110	2,632	2,347	1,839	1,470	1,241
284 Norfolk State University	2,442	1,388	2,187	1,256	671	566	769	726
285 Lincoln University	2,438 <i>i</i>	2,584	2,681	2,702	2,869	2,726	2,851	2,763
286 U of the Virgin Islands	2,428 <i>e</i>	2,428 <i>e</i>	2,428	2,040 <i>i</i>	1,653	2,283	2,403 <i>i</i>	2,521 <i>i</i>
287 Fort Valley State U	2,359	2,471	2,338	2,936	2,591	2,413	2,384	2,047
288 Rochester Inst of Tech	2,339 <i>e</i>	2,523	2,545	1,731	2,478	1,561	1,341 <i>i</i>	1,124 <i>i</i>
289 CUNY Queens College	2,323	1,637	1,365	2,023	1,663	1,911	1,787	1,989
290 Lamar University	2,307	1,169	1,451	1,549	2,320	2,158	2,046	1,914
Total, 1st 290 institutions	14,924,987	14,269,126	13,655,879	13,152,033	12,482,460	11,797,850	10,964,339	10,058,127
291 Wellesley College	2,304 <i>e</i>	2,304	2,533	1,568	1,537	1,524 <i>i</i>	1,512 <i>i</i>	1,500 <i>i</i>
292 Louisiana Tech University	2,287	1,840 <i>i</i>	1,395 <i>i</i>	950 <i>i</i>	505	687	1,660	1,072
293 U MD Eastern Shore	2,265	2,187	1,980	1,880	1,128	2,691	3,096	1,371
294 Air Force Inst of Tech	2,228	4,212	2,291	2,229	2,426	3,252	3,813	2,243
295 New Mexico Highlands U	2,226 <i>i</i>	2,359 <i>i</i>	2,345	1,902 <i>i</i>	1,459	283	247 <i>i</i>	211 <i>i</i>
296 University of Guam	2,206	2,141 <i>i</i>	2,076 <i>i</i>	2,011 <i>i</i>	1,946 <i>i</i>	1,881 <i>i</i>	1,816 <i>i</i>	1,751 <i>i</i>
297 U Ctrl Del Caribe Esc Med	2,191 <i>i</i>	2,072	2,353	2,387	1,664	1,426	1,100	617
298 Humboldt State University	2,185	2,003 <i>i</i>	1,822 <i>i</i>	1,641 <i>i</i>	1,460 <i>i</i>	1,279 <i>i</i>	1,098 <i>i</i>	917 <i>i</i>
299 Florida Inst of Tech	2,152	2,292	2,980	2,213	1,654	1,903	2,080	1,640
300 Gallaudet University	2,119	2,284 <i>i</i>	2,449 <i>i</i>	2,614 <i>i</i>	2,779 <i>i</i>	2,944	2,755 <i>i</i>	2,566 <i>i</i>
Total, 1st 300 institutions	14,947,150	14,292,820	13,678,103	13,171,428	12,499,018	11,815,720	10,983,516	10,072,015

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
301 Langston University	2,031	1,828	2,521	2,661	1,929	1,570	1,446	1,310
302 Bowling Green State U	2,029	2,436	2,391 <i>i</i>	2,347	2,317	1,686	1,496	1,602
303 South Carolina State U	1,968	1,948	1,910	2,325 <i>i</i>	2,739	2,460	2,075	1,309
304 W Washington Univ	1,954	1,782 <i>i</i>	1,619 <i>i</i>	1,456 <i>i</i>	1,293 <i>i</i>	1,130 <i>i</i>	967 <i>i</i>	804 <i>i</i>
305 Grambling State U	1,936	2,630	1,450	145	155	155	164 <i>i</i>	173 <i>i</i>
306 University of DC	1,898	1,756 <i>e</i>	1,756	1,784 <i>i</i>	1,811 <i>e</i>	1,705 <i>i</i>	1,600	1,585
307 Winston Salem State U	1,898	1,874	1,246	797	780	529	583	617
308 Boise State University	1,892	1,932	1,875	1,597	1,452	557	--	--
309 Texas A&M Univ Kingsville	1,874	1,703 <i>i</i>	1,532 <i>i</i>	1,361 <i>i</i>	1,190 <i>i</i>	1,019	996	664
310 U of NC Greensboro	1,829	1,581	1,730	2,172	1,971	1,963	1,800	1,666
Total, 1st 310 institutions	14,966,459	14,312,290	13,696,133	13,188,073	12,514,655	11,828,494	10,994,643	10,081,745
311 College of Charleston	1,724	1,481 <i>i</i>	1,240 <i>i</i>	999 <i>i</i>	758 <i>i</i>	517	--	--
312 Spelman College	1,700	1,282	988	1,277	954	569	514	358
313 Clark University	1,660	2,134	1,756	1,910	2,301	1,717	1,121	936
314 CUNY Brooklyn College	1,574 <i>e</i>	1,492	1,408	1,666	1,138	1,373	1,454 <i>i</i>	1,533 <i>i</i>
315 Villanova University	1,555 <i>i</i>	1,471	1,390	1,362	1,061	980	882	708
316 Occidental College	1,513 <i>e</i>	1,513 <i>i</i>	1,513 <i>i</i>	1,513 <i>i</i>	1,513 <i>e</i>	1,513 <i>e</i>	908	381
317 Nova Southeastern U	1,500	1,003	861	711	885	805	974	1,395
318 CA St U Chico	1,497	1,090	107	295	270	270	222 <i>i</i>	174 <i>i</i>
319 Texas Woman's University	1,485	1,304	1,006	882	714	692	583	466
320 Tarleton State University	1,483	1,177	911	672	572	570	12	370
Total, 1st 320 institutions	14,982,150	14,326,237	13,707,313	13,199,360	12,524,821	11,837,500	11,001,313	10,088,066
321 CUNY York College	1,480	1,271	903	882	819	905	872	622
322 Northeast Louisiana U	1,466	2,308	1,573	1,724	1,600	1,391	2,112	663
323 Embry-Riddle Aero Univ	1,432	1,470 <i>i</i>	1,506 <i>i</i>	1,542 <i>i</i>	1,578 <i>i</i>	1,614	--	--
324 N.E. Ohio Unirs Col Med	1,430	1,530	1,068	1,459	1,136	965	936	724
325 Le Moyne-Owen Coll	1,404	--	--	--	--	--	--	--
326 East Tennessee State U	1,368	714	738	830	1,026	791	886	1,060
327 Alfred University	1,348	445	600	1,004	859	797	403	320
328 Baylor Col of Dentistry	1,337	699	822	682	830	537	437	696
329 Calif State, Northridge	1,309	1,374 <i>i</i>	1,439 <i>i</i>	1,504 <i>i</i>	1,569 <i>i</i>	1,634	--	--
330 U of Houston, Clear Lake	1,266	2,095 <i>i</i>	2,924 <i>i</i>	3,753 <i>i</i>	4,582 <i>i</i>	5,411	5,033 <i>i</i>	4,659 <i>i</i>
Total, 1st 330 institutions	14,995,990	14,338,143	13,718,886	13,212,740	12,538,820	11,851,545	11,011,992	10,096,810
331 Hampshire College	1,264	1,155	964 <i>i</i>	775 <i>i</i>	586	558	--	--
332 Seton Hall University	1,243	1,243 <i>e</i>	1,228 <i>i</i>	1,214 <i>e</i>	3,072	2,893 <i>i</i>	2,723 <i>i</i>	2,553 <i>i</i>
333 U of TX Pan American	1,233	1,176 <i>i</i>	1,121 <i>i</i>	1,066 <i>i</i>	1,011 <i>i</i>	956	883 <i>i</i>	811 <i>i</i>
334 Long Island University	1,197	700	14	77	145	109	142	20
335 Loyola College	1,191	833	981	1,359	1,564	1,131	--	--
336 Dickinson College	1,168	--	--	--	--	--	--	--
337 Central State University	1,144	1,153 <i>i</i>	1,162 <i>i</i>	1,171 <i>i</i>	1,180	1,272	930	680
338 Alabama State University	1,133	787	970	970	1,026	528	502	442
339 Stephen F Austin St U	1,125	2,285	1,684	985	441	330	292	282
340 Southwest Texas St Univ	1,116	1,323 <i>i</i>	1,530 <i>i</i>	1,737 <i>i</i>	1,944 <i>i</i>	2,151	1,720 <i>i</i>	1,290 <i>i</i>
Total, 1st 340 institutions	15,007,804	14,348,798	13,728,540	13,222,094	12,549,789	11,861,473	11,019,184	10,102,888
341 Ithaca College	1,075	882 <i>i</i>	693 <i>i</i>	504 <i>i</i>	315 <i>i</i>	126	147 <i>i</i>	164 <i>i</i>
342 Tennessee Tech U	1,065	1,205	1,250	1,182	1,208	1,266	1,534	949
343 SUNY Col Buffalo	1,054	1,207	1,786	1,029	1,095	1,290	1,157	1,000
344 Barnard College	1,038	685 <i>e</i>	678	813	1,031	1,007	869	540
345 Calif State, Fullerton	1,028 <i>e</i>	1,028 <i>i</i>						
346 Claflin College	1,028	1,074	474	290	103	180	240	381
347 New England Col Opt	1,020	715	437	0	120	65	--	--
348 Albany State University	1,019	675 <i>e</i>	675 <i>e</i>	675 <i>i</i>	675	1,068	627	536
349 Williams College	1,010 <i>e</i>	1,010 <i>i</i>	1,010 <i>i</i>	1,010 <i>i</i>	1,010 <i>i</i>	1,010	925 <i>i</i>	841 <i>i</i>
350 St. Cloud State Univ	987	827 <i>i</i>	669 <i>i</i>	511 <i>i</i>	353 <i>i</i>	195	201 <i>i</i>	206 <i>i</i>
Total, 1st 350 institutions	15,018,128	14,358,106	13,737,240	13,229,136	12,556,727	11,868,708	11,025,912	10,108,533

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
351 U WI Stout	986	774	881	741	835	954	1,174	1,173
352 CUNY H H Lehman Col	960i	927e	891	1,011i	1,130	0e	--	--
353 Ball State University	959	1,329	1,459	820	696	606	330	226
354 Wentworth Inst of Tech	933	591	1,023	1,155	1,434	1,634	1,287	1,460
355 U of Nebraska, Omaha	931	843i	759i	675i	591i	507	540	294
356 St John's University (NY)	916	1,230	1,227	941	862	590	743	528
357 CUNY Jay Col Crim Just	912	565	579	141	164	412	--	--
358 Bryn Mawr College	910	871	1,039	1,411	1,294	1,277	801	976
359 Duquesne University	867	711	618	832	712	297	202	250
360 Amherst College	861	899i	934i	969i	1,004i	1,039	933	1,132
Total, 1st 360 institutions	15,027,363	14,366,846	13,746,650	13,237,832	12,565,449	11,876,024	11,031,922	10,114,572
361 DePaul University	822	926	842	856	868	893	594	507
362 Haverford College	820	933	635	496	584	593i	597i	601i
363 North Carolina Central U	819i	868i	863i	813	409	313	683	441i
364 E Washington Univ	804e	804i	804i	804i	804i	804	669	791
365 SUNY Col Plattsburgh	802	692	740	625	629	741	924	1,027
366 University of Richmond	781	588	464	288	718	390	--	--
367 New School University	773	814	748i	682i	616	376	376	344
368 Fordham University	769	1,472	1,421	1,327	1,304	1,006	1,468	1,303
369 SUNY Col Old Westbury	767	743	510	517	412	400	--	--
370 CUNY Col Staten Island	739	559	557	503	652	705	615	634
Total, 1st 370 institutions	15,035,259	14,375,245	13,754,234	13,244,743	12,572,445	11,882,245	11,037,848	10,120,220
371 Mount Holyoke College	733	696i	663i	630i	597i	564i	531i	498i
372 Franklin & Marshall Coll	723	684i	647i	610i	573i	536	514i	495i
373 James Madison University	722	669i	617i	565i	513i	461	393i	327i
374 Kentucky State University	703	2,139	2,761	2,920	2,665	2,349	2,525	2,026
375 Chicago State University	696	738	739	717	1,237	1,048	936i	827i
376 Oakwood College	690	716	371	300	161	186	206	179
377 Tougaloo College	657	929	867i	806i	745	636	702	684
378 Smith College	634	730	695i	661i	627	544i	462i	380i
379 Bradley University	632	519i	407i	295i	183i	71	65i	59i
380 U of Northern Colorado	609e	702	470	196	177	185	158	91
Total, 1st 380 institutions	15,042,058	14,383,767	13,762,471	13,252,443	12,579,923	11,888,825	11,044,340	10,125,786
381 CA Sch Prof Psy Fresno	608	811	895	673i	452	74	252	208
382 SW Missouri State Univ	596	539i	482i	425i	368i	311	334i	355i
383 Indiana State University	592	669	532	369	367	391	498	307
384 Morehouse College	591e	591e	591	793	730	1,117	1,214	917
385 Swarthmore College	586	511	661	538	582	592	633i	670i
386 Bennett College	583	93e	93i	111	105	122	784	62
387 Elizabeth City State U	575	1,146	753	497i	241	605	339	0
388 Bethune Cookman College	566	472	333	0	358	218	590	548
389 U WI La Crosse	562	510	748	601	141	211	315	258
390 Pace University All Cmp	555	0	0	0	0e	0e	--	--
Total, 1st 390 institutions	15,047,872	14,389,109	13,767,559	13,256,450	12,583,267	11,892,466	11,049,299	10,129,111
391 Murray State University	554	422	362	284	309	325	281i	240i
392 Benedict College	552i	552i	552i	740i	925	600	702	0
393 U of Southern Colorado	538	616	959	1,264	1,131	1,031	--	--
394 Virginia Union University	537	--	--	--	--	--	--	--
395 Morris Brown College	525e	525	2,422	3,796	927	1,227	1,217e	442
396 Baylor University	522	615	433	502	368	407	635	324
397 Lincoln University (PA)	520	949	1,135	818i	502	432	953	437
398 CA Sch Prof Psy S Diego	517	267	99	431	0	0	0	0
399 Vassar College	517e	517i	517i	517i	517i	517	522i	524i
400 Youngstown State Univ	508	422i	339i	256i	173i	90	102i	111i
Total, 1st 400 institutions	15,053,162	14,393,994	13,774,377	13,265,058	12,588,119	11,897,095	11,053,711	10,131,189

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
401 Santa Clara University	506i	479i	450i	439i	422e	422	459	408
402 U of Northern Iowa	496	588	712	1,099	565	485	108	58
403 U of Detroit Mercy	494	877	950	1,213	1,339	770	318	309
404 Indiana U of PA All Cmp	491e	491	520	283	159	196	--	--
405 Midwestern University	491	756	613	458	465	303	149	175
406 SUNY Col Oswego	480	459	551	595i	638	299	188	75
407 St. Joseph's Univ	462	395i	330i	265i	200i	135	120i	105i
408 West Chester U of PA	462	148	271	1,017	945	398	346i	296i
409 University of Dallas	441	36	34	0	0	0	0i	0i
410 Bates College	411	306	387	285	101	112	--	--
Total, 1st 410 institutions	15,057,896	14,398,529	13,779,195	13,270,712	12,592,953	11,900,215	11,055,399	10,132,615
411 U WI Eau Claire	395	325	242	224	396	179	178	126
412 SUNY Col of Optometry	386	268	327	130	258	164	160	118
413 Fayetteville State U	378	139	503i	470i	437	273	187	275
414 Pomona College	376	395i	410i	425i	440i	455	358	263
415 Minnesota State, Mankato	372	335i	298i	261i	224i	187	158i	130i
416 Hamilton College	359e	359i	359i	359i	359i	359	--	--
417 Mississippi Valley St U	350	563	586	471	319	213	71	64
418 SUNY Col Brockport	349	264	288	231e	234	171	165	425
419 University of San Diego	334	157	167	574	502	302	--	--
420 Kirksville Col Osteo Med	329	381	482	715	478	369	392	254
Total, 1st 420 institutions	15,061,524	14,401,715	13,782,857	13,274,572	12,596,600	11,902,887	11,057,068	10,134,270
421 Manhattan College	327	424i	519i	614i	709i	804	906i	1,003i
422 Hofstra University	319	319	192	2,218	1,786	1,073	211	418
423 Rust College	317	0	0	332	389	346	798	271
424 Furman University	315	533	475	480	200	179	175i	171i
425 Lewis and Clark College	309	271i	234i	197i	160i	123	--	--
426 U WI Stevens Point	306	413	629	860	701	399	234	128
427 U of Health Sci (MO)	305	162	180	163	0	0	0	0
428 US Coast Guard Academy ...	300	302i	304i	306i	308i	310	281i	252i
429 Savannah State Univ	298i	316	317	214	128	168	195	212
430 Lafayette College	295	291i	289i	287i	285i	283	--	--
Total, 1st 430 institutions	15,064,615	14,404,746	13,785,996	13,280,243	12,601,266	11,906,572	11,059,868	10,136,725
431 Western Carolina U	277	218	95	116	114	83	--	--
432 Salem-Teikyo University	271	--	--	--	--	--	--	--
433 Towson State University	268	170	148	178	146	171	151i	132i
434 U WI Oshkosh	268	199	119	172	207	245	213	280
435 University of New Haven	259i	274i	272	203i	134	49	--	--
436 Valparaiso University	259	200	231i	262i	293	260i	228i	196i
437 Calif State San Bernardin ...	258	228i	198i	168i	138i	108	84i	63i
438 University of the Pacific	254	1,755	860	970	60	1,043	995	1,039
439 Western U of Hlth Sci	253	40	115	67	68	0	0	0
440 College of the Holy Cross	251	265	1,245	379	307	545	473i	402i
Total, 1st 440 institutions	15,067,233	14,408,095	13,789,279	13,282,758	12,602,733	11,909,076	11,062,012	10,138,837
441 Monmouth University	248	635	614	739	694	357e	141e	135
442 Appalachian State U	247	244	303	440	412	284	--	--
443 College of Wooster	244	153	172i	191	179	151	136i	124i
444 S Illinois U Edwardsville	244	261i	275i	289i	303i	317	324i	329i
445 U WI Green Bay	238	238	215	218	143	152	184	198
446 Univ of Southern Maine	236	268i	299i	330i	361i	392e	--	--
447 Wilberforce University	236e	236	323	384	505	200	--	--
448 Southern Oregon Univ	230	241	200i	161i	122i	83	72	56
449 Pittsburg State U	229	69	30	0	0	220	195i	170i
450 SUNY Col Geneseo	229	218	251	101	194	317	245	135
Total, 1st 450 institutions	15,069,614	14,410,658	13,791,961	13,285,611	12,605,646	11,911,549	11,063,309	10,139,984

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
451 Bowdoin College	213	137	388	290	325	257	234i	211i
452 Milwaukee School of Eng	211	170i	130i	90i	50i	10	87	0
453 Selma University	210e	210	250	495i	740	420	798	650
454 Pitzer College	197	164	182	190i	197	280	--	--
455 Kettering University	192	176i	162i	148i	134i	120	--	--
456 Kutztown U of PA	192	100	157	160	206	46	126	43
457 Spalding University	176	0	0	15	5	0	--	--
458 Dillard University	164e	164	314	145	110	0	0	0
459 Abilene Christian Univ	162	176i	186i	196i	206i	216	162	125
460 Phila Col of Phar & Sci	162	269	342	300	250	160	279	368
Total, 1st 460 institutions	15,071,493	14,412,224	13,794,072	13,287,640	12,607,869	11,913,058	11,064,995	10,141,381
461 SUNY Purchase College	160	211	161	138i	116	67	--	--
462 University of St. Thomas	158	148i	141i	134i	127i	120	--	--
463 Sul Ross State University	156	148	137	21	9	47	38	71
464 Truman State University	156	223	125	91i	58e	58	52	26
465 Arkansas State University	152	--	--	--	--	--	--	--
466 Fort Lewis College	149	323	204	332	460	494	--	--
467 Sonoma State University	145	--	--	--	--	--	--	--
468 U WI Whitewater	145	171	233	197	92	80	65	31
469 Willamette University	137	--	--	--	--	--	--	--
470 La Salle University	136	192	302	151i	0	143	--	--
Total, 1st 470 institutions	15,072,987	14,413,640	13,795,375	13,288,704	12,608,731	11,914,067	11,065,150	10,141,509
471 Kennesaw State Univ	132	141	111	71	148	121	--	--
472 Middle Tennessee State U	127	107	119	55	44	36	--	--
473 U of Alaska, SE	127	--	--	--	--	--	--	--
474 Union College (NY)	126	343	610	538	194	444	279	261i
475 University of Hartford	124	27	41	300	148	0e	--	--
476 Claremont Graduate Sch	123	259	256	201	293	53	15	66
477 Texas A&M U-Commerce	122	55	80	42	41	39	0	85
478 U WI Parkside	119	132	112	174	220	310	413	362
479 Andrews University	117	106	252	103	109	82	98	101
480 Grinnell College	117e	117i	117i	117i	117i	117	109i	104i
Total, 1st 480 institutions	15,074,221	14,414,927	13,797,073	13,290,305	12,610,045	11,915,269	11,066,064	10,142,488
481 West Texas A&M U	114	93i	76i	59i	42i	25	16	12
482 Shaw University	110	122	115	56	56	53	6	0
483 Colorado College	106	101i	96i	91i	86i	81	59	34
484 Ohio Wesleyan University	106	340	444	250	260	245	--	--
485 Radford University	103	--	--	--	--	--	--	--
486 U WI Superior	96	169	619	1,274	1,411	1,338	1,243	1,402
487 Colby College	93	90i	88i	86i	84i	82	--	--
488 SUNY Col Fredonia	93	100	144	148	55	98	116	27
489 Grand Valley State U	92	42	30	0	10	0	0	0
490 Adelphi University	80	329	221	220	98e	98	89	152
Total, 1st 490 institutions	15,075,214	14,416,313	13,798,906	13,292,489	12,612,147	11,917,289	11,067,593	10,144,115
491 Pont Catholic U of PR	78	64	20e	20	0	0	68	214
492 CA Sch Prof Psy Brk/Alm	77	69	20	27	0	0	0	0
493 Skidmore College	74	56i	42i	28i	14i	0	--	--
494 Philander Smith College	73e	73	73	145	137	157	136	154
495 U WI River Falls	69	71	55	19	70	312	268	118
496 Northeastern Illinois U	68	110	62	16	0	0	0	22
497 Virginia Military Inst	67	175	240	217	240	252	224i	199i
498 U of Central Oklahoma	65	66i	66i	66i	66	52i	39i	39i
499 Regis University	58	65i	72i	79i	86i	93	--	--
500 Whitman College	58	84i	108i	132i	156i	180	--	--
Total, 1st 500 institutions	15,075,901	14,417,146	13,799,664	13,293,238	12,612,916	11,918,349	11,068,341	10,144,861

See explanatory information and SOURCE at end of table.

Table B-33. Federally financed R&D expenditures at universities and colleges: fiscal years 1991-1998

[Dollars in thousands]

Page 11 of 11

Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
501 Phila Col Osteopathic Med ...	57	95	91	238	304	830	314	198 <i>i</i>
502 Arkansas Tech Univ	55	51 <i>i</i>	49 <i>i</i>	47 <i>i</i>	45 <i>i</i>	43	--	--
503 Jarvis Christian College	55	83	102	219	219	336	97	60
504 University of Portland	55	127	119	92	59	48	198	121
505 Lawrence Tech Univ	51	49 <i>i</i>	48 <i>i</i>	47 <i>i</i>	46 <i>i</i>	45	--	--
506 Cooper Union	50e	50 <i>i</i>	50 <i>i</i>	50 <i>i</i>	50 <i>i</i>	50	39 <i>i</i>	30 <i>i</i>
507 Ferris State University	49	--	--	--	--	--	--	--
508 Augustana College	42e	42 <i>i</i>	42 <i>i</i>	42 <i>i</i>	42 <i>i</i>	42	45 <i>i</i>	48 <i>i</i>
509 New York Inst Technology	38	28	30	41	174	141	94 <i>i</i>	47 <i>i</i>
510 W State Coll, Colorado	37	43 <i>i</i>	45 <i>i</i>	47 <i>i</i>	49 <i>i</i>	51	44 <i>i</i>	39 <i>i</i>
Total, 1st 510 institutions	15,076,390	14,417,714	13,800,240	13,294,061	12,613,904	11,919,935	11,069,172	10,145,404
511 Lake Forest College	28	20 <i>i</i>	15 <i>i</i>	10 <i>i</i>	5 <i>i</i>	0	0 <i>i</i>	0 <i>i</i>
512 SUNY Col Cortland	26	235	246	168	236	173	113	88
513 Marshall University	25	180	234	206	540	570	623	883
514 Fuller Theological Sem	21e	21	0	0 <i>i</i>	0	80	40	0
515 Fairmont State College	20	--	--	--	--	--	--	--
516 Providence College	17	20	39	22	29	55	47	65
517 Oral Roberts University	16	20	0	0	28	0	0	0
518 CA Sch Prof Psy L.A.	13	116	76 <i>i</i>	38 <i>i</i>	0	0	50	245
519 Fairleigh Dickinson U	7	17	35 <i>i</i>	53e	53e	53	2	370
520 Coppin State College	6	15	116	208	218	77	103	212
Total, 1st 520 institutions	15,076,569	14,418,358	13,801,001	13,294,766	12,615,013	11,920,943	11,070,150	10,147,267
521 U Osteo Med & Hlth Sci	2	0	0	0	327	343	0	0
522 Antioch University	0	0	0	81	85	116	87	0
523 Biola University	0	0	0	0	0	0	0	0
524 Bluefield State College	0	--	--	--	--	--	--	--
525 CA Inst of Integral Stu	0	0	0	0	0	0	--	--
526 Central Michigan U	0	107 <i>i</i>	213	310 <i>i</i>	406	628	734	110
527 Connecticut College	0e	34 <i>i</i>	65 <i>i</i>	96 <i>i</i>	127 <i>i</i>	158	164 <i>i</i>	169 <i>i</i>
528 Fitchburg State College	0	--	--	--	--	--	--	--
529 Forest Inst of Prof Psy	0	0	0	0	0	0	--	--
530 Golden Gate University	0	0	0	0	0	0	--	--
Total, 1st 530 institutions	15,076,571	14,418,499	13,801,279	13,295,253	12,615,958	11,922,188	11,071,135	10,147,546
531 Institute of Textile Tech	0	0	0	0	0	0	0	0
532 Knoxville College	0	22 <i>i</i>	43 <i>i</i>	64 <i>i</i>	85	23 <i>i</i>	33 <i>i</i>	42 <i>i</i>
533 MA Col Phar Allied Hlth	0	0	0	0	0	0	0	0
534 Maharishi U of Mgmt	0	0	0	640	776	0e	--	--
535 Pacific University	0	0	0	0	0	0	0 <i>i</i>	0 <i>i</i>
536 Pepperdine University	0	0	0	0	0	0	--	--
537 Southern Col of Optometry	0	0	109	109	109	109	--	--
538 St. Mary's University	0	--	--	--	--	--	--	--
539 Talladega College	0i	0	0	0	0	0	0	0
540 The Union Institute	0	0 <i>i</i>	0	0	0	0	0	0
Total, 1st 540 institutions	15,076,571	14,418,521	13,801,431	13,296,066	12,616,928	11,922,320	11,071,168	10,147,588
541 U of Alaska, Anchorage	0e	--	--	--	--	--	--	--
542 U of Missouri Sys Admn	0	0	0	0	0	0	0	20
543 US International U	0	0	0	0	0	0	0	0
544 WV Sch of Osteo Med	0	0	0	0	0	0	0	14
545 West Virginia State Col	0	196	10	40	195	161	172	210
546 Widener U All Campuses	0	0	0	0	0	0	0 <i>i</i>	0 <i>i</i>
547 Wiley College	0	--	--	--	--	--	0	0
Total, 1st 547 institutions	15,076,571	14,418,717	13,801,441	13,296,106	12,617,123	11,922,481	11,071,340	10,147,832
Total, all other sampled insts.	0	785	826	1,134	1,085	33,809	21,072	86,378

¹ Johns Hopkins University includes Applied Physics Laboratory, with \$425 million in federally financed R&D expenditures.

² These data do not include R&D expenditures at university-associated federally funded research and development centers. See tables B-73 and B-74.

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-34. Non-Federal R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

Page 1 of 5

Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
Total, all institutions	10,658,697	9,768,099	9,159,707	8,800,662	8,347,608	7,994,273	7,725,415	7,351,069
1 U CA Berkeley	249,300	170,464	148,149	133,374	137,104	127,952	135,591	117,777
2 Texas A&M University	248,782	221,732	218,308	225,805	218,808	200,158	192,472	190,278
3 U CA Los Angeles	213,665	135,710	118,010	101,895	89,667	88,909	90,211	82,148
4 U WI Madison	203,182	186,050	179,396	174,160	167,315	158,407	152,890	142,837
5 University of Michigan	185,311	187,457	187,814	167,114	166,056	175,917	169,607	157,306
6 Ohio State University	177,341	166,518	143,336	123,627	117,329	112,391	105,351	106,377
7 Pennsylvania State U	176,369	154,749	147,250	143,400	134,318	122,507	126,428	121,604
8 NC State University	174,721	159,819	116,263	111,516	103,799	93,154	92,507	95,712
9 U CA Davis	173,884	131,397	124,416	121,471	117,429	118,503	117,964	120,703
10 U of Illinois Urbana	169,970	130,104	123,481	107,096	106,673	111,662	122,884	124,632
Total, 1st 10 institutions	1,972,525	1,644,000	1,506,423	1,409,458	1,358,498	1,309,560	1,305,905	1,259,374
11 University of Florida	168,352	178,045	168,126	119,855	68,962	71,262	72,599	73,480
12 University of Georgia	163,233	171,093	153,103	148,747	132,844	120,189	116,317	117,973
13 U CA San Francisco	160,058	104,883	98,893	105,471	99,141	104,451	93,501	77,764
14 Cornell University	159,324	145,509	136,452	136,395	118,702	115,720	118,981	136,057
15 U CA San Diego	156,487	103,201	79,592	72,888	65,735	63,902	62,271	60,971
16 University of Minnesota	155,582	162,946	142,252	141,705	136,826	157,317	151,100	166,584
17 Georgia Institute of Tech	145,590	127,693	109,478	106,983	96,555	77,475	78,968	75,253
18 Louisiana St U, All Camp	141,838	140,184	131,804	125,267	113,793	106,225	103,203	90,567
19 University of Arizona	140,329	133,057	125,652	123,560	124,243	122,105	116,087	111,908
20 Rutgers the State U NJ	127,224	114,813	117,515	119,696	105,062	105,856	105,464	102,513
Total, 1st 20 institutions	3,490,542	3,025,424	2,769,290	2,610,025	2,420,361	2,354,062	2,324,396	2,272,444
21 Purdue University	123,635	114,619	115,319	110,163	90,585	76,078	72,036	68,515
22 Michigan State University	112,465	107,201	105,346	104,510	89,430	80,567	75,842	71,603
23 Duke University	109,856	95,642	92,604	70,177	71,870	66,057	62,936	49,353
24 Baylor Col of Medicine	105,918	94,915	92,319	96,178	94,461	84,629	82,264	82,332
25 Iowa State University	105,570	102,495	97,010	96,166	99,543	97,764	87,436	91,864
Total, 1st 30 institutions	4,542,525	3,989,047	3,716,805	3,510,254	3,258,566	3,148,329	3,050,516	2,975,726
31 U MD College Park	93,992	112,999	117,269	115,874	112,297	144,303	136,572	128,566
32 U of Missouri Columbia	90,613	84,843	80,141	90,450	89,957	76,581	69,195	69,285
33 U of Pennsylvania	85,563	79,016	72,263	71,498	65,052	60,236	62,850	53,770
34 VA Polytech Inst & St U	84,384	82,151	63,496	69,427	74,823	74,063	79,713	77,390
35 U of Iowa	83,751	75,880	72,582	61,778	57,500	55,328	47,058	43,051
36 University of Colorado	82,861	77,615	73,784	74,266	76,104	54,633	46,372	41,458
37 Washington University	82,377	75,433	63,443	62,179	54,079	49,847	46,476	47,989
38 University of Connecticut	81,259	91,337	94,513	89,860	88,454	84,003	78,043	77,638
39 U of Tennessee System	80,901	80,181	75,607	75,022	71,052	67,084	59,193	64,843
40 Wayne State University	80,810	70,676	65,887	59,894	51,278	45,260	45,558	39,414
Total, 1st 40 institutions	5,389,036	4,819,178	4,495,790	4,280,502	3,999,162	3,859,667	3,721,546	3,619,130
41 U TX Austin	79,761	87,067	93,798	84,737	111,016	110,032	103,931	123,851
42 U of Southern California	78,259	67,437	64,977	58,553	57,540	50,857	53,027	43,365
43 U TX MD Anderson Cnrc	78,186	79,876	78,170	77,470	79,941	86,317	77,629	76,674
44 University of IL Chicago	77,942	68,557	62,549	61,853	56,667	55,507	53,783	47,317
45 U of Nebraska Lincoln	76,969e	75,831	70,108	70,824	67,275	71,029	66,045	60,030
46 Indiana University	75,914	69,267	63,379	59,471	54,960	50,500	47,694	40,630
47 SUNY Buffalo	75,613	57,571	49,888	68,055	59,278	47,480	50,800	44,496
48 University of Oklahoma	72,410	68,631	66,392	65,225	60,481	58,721	62,413	53,991
49 The Rockefeller Univ	71,649	66,020	68,226	60,355	34,468	37,542	37,270	37,331
50 University of Cincinnati	69,388	63,312	55,190	36,052	37,238	35,118	33,904	33,153
Total, 1st 50 institutions	6,145,127	5,522,747	5,168,467	4,923,097	4,618,026	4,462,770	4,308,042	4,179,968

See explanatory information and SOURCE at end of table.

**Table B-34. Non-Federal R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

Page 2 of 5

Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
51 U of South Florida	68,395	68,581	64,406	63,200	66,276	58,604	50,703	49,370
52 Stanford University	67,883	63,038	56,153	45,714	50,002	52,297	102,293	71,722
53 University of Kansas	66,548	62,160	58,791	58,493	54,885	47,396	43,012	39,563
54 U of MD Baltimore	65,284	62,708	56,996	48,278	51,139	58,216	52,224	56,481
55 U CA Irvine	64,513	41,715	46,653	40,253	37,533	36,085	33,944	29,871
56 U of NC Chapel Hill	63,791	67,395	51,495	52,492	52,575	48,237	47,775	39,196
57 Clemson University	61,951	55,942	56,727	54,149	52,439	55,270	58,808	53,642
58 Univ of Hawaii Manoa	61,121	47,686	44,300	34,191	30,687	32,599	32,574	33,309
59 U of Alabama Birmingham	60,890	53,257	44,389	51,339	43,016	39,028	35,452	37,000
60 Auburn University	60,062	58,048	55,957	58,022	57,022	50,713	51,358	54,634
Total, 1st 60 institutions	6,785,565	6,103,277	5,704,334	5,429,228	5,113,600	4,941,215	4,816,185	4,644,756
61 Colorado State University	59,728	49,187	51,771	46,956	45,993	46,652	42,660	24,785
62 Mississippi State U	58,406	49,229	49,487	38,987	42,283	40,684	36,008	38,584
63 Yale University	57,634	56,412	57,907	56,951	53,514	57,950	54,224	44,387
64 U CA Riverside	56,787	45,969	43,768	37,412	37,252	39,939	40,369	41,213
65 U TX SW Med Ctr Dallas	56,511	51,232	48,694	46,409	46,930	46,315	40,764	36,765
66 Oregon State University	55,824	51,336	51,357	54,715	54,703	52,886	47,834	45,100
67 U Arkansas Main	55,530	49,096	43,734	42,179	41,775	43,927	32,347	28,460
68 New York University	55,026	59,171	55,864	55,176	50,189	36,141	35,318	30,210
69 Emory University	54,839	55,097	53,931	55,454	47,451	39,701	31,504	31,354
70 U Med & Dent NJ	54,663	52,912	51,030	50,631	46,179	40,886	45,413	42,019
Total, 1st 70 institutions	7,350,513	6,622,918	6,211,877	5,914,098	5,579,869	5,386,296	5,222,626	5,007,633
71 Kansas State University	54,232	51,115	46,453	45,837	44,149	42,980	39,140	37,284
72 Harvard University	54,224	77,349	79,396	72,457	88,276e	75,238	78,494	73,925
73 Washington State U	50,912	52,670	49,834	47,767	49,128	48,756	46,867	42,987
74 Arizona State University	50,660	43,040	45,706	41,794	31,864	36,110	36,198	37,243
75 SUNY Stony Brook	50,235	50,056	46,807	46,106	40,578	39,794	35,298	31,813
76 U of South Carolina	50,199	40,850	27,350	35,418	36,083	28,812	30,617	32,007
77 Oklahoma State University	48,246	41,025	57,926	56,955	50,368	52,080	55,854	51,736
78 Princeton University	46,991	44,882	42,994	40,254	40,743	41,192	38,236	39,667
79 U MA Amherst	46,774	44,886	35,709	33,956	32,614	32,046	29,582	--
80 University of Pittsburgh	45,331	41,700	39,866	41,970	36,388	36,844	36,173	30,390
Total, 1st 80 institutions	7,848,317	7,110,491	6,683,918	6,376,612	6,030,060	5,820,148	5,649,085	5,384,685
81 U of Alaska Fairbanks	44,101	42,816	41,030	34,931	35,323	25,180	35,815	33,097
82 Case Western Reserve U	44,056	40,833	33,534	33,897	35,970	32,824	35,004	27,809
83 Florida State University	44,012	42,963	38,598	40,113	36,813	24,239	22,529	25,316
84 University of Rochester	43,844	36,834	31,981	32,642	31,622	30,912	29,579	24,903
85 Carnegie Mellon U	42,404	43,427	44,684	40,901	34,790	39,595	40,723	37,740
86 University of Utah	42,234	36,589	20,635	22,088	22,508	22,026	29,100	25,852
87 University of New Mexico	41,545	39,174	39,768	38,457	38,535	33,870	32,830	37,203
88 University of Idaho	40,615	40,166i	39,717	34,290	32,752	28,778	27,539	24,258
89 University of Virginia	39,721	31,597	22,078	51,435	45,834	42,374	41,952	35,673
90 Mt Sinai Sch Med	39,453	33,862	30,806	33,017	30,991	25,537	24,708	24,275
Total, 1st 90 institutions	8,270,302	7,498,752	7,026,749	6,738,383	6,375,198	6,125,483	5,968,864	5,680,811
91 Utah State University	39,325	41,698	37,945	34,037	32,957	30,409	34,872	32,405
92 U TX Med Br Galveston	37,900	35,677	35,436	39,365	39,998	37,443	33,391	24,112
93 West Virginia University	37,377	33,869	24,044	22,814	23,982	23,179	24,742	30,104
94 Columbia University	37,284	32,157	40,751	38,496	33,316	22,014	24,739	31,105
95 University of Delaware	36,208	33,064	24,645	25,809	24,484	26,457	27,341	24,643
96 Texas Tech University	35,645	31,744	29,987	29,374	28,095	27,222	25,748	25,671
97 University of Miami	35,480	34,372	33,340	31,625	29,912	29,403	22,309	27,132
98 Tulane University	34,934	36,719	33,940	39,394	41,531	38,694	38,886	35,068
99 Allegheny U of Hlth Sci	34,882	37,686	21,067	17,332	18,894	16,088	16,327	15,362
100 U of NE Med Ctr Omaha	34,790	31,375	28,583	24,912	21,741	21,538	21,824	17,340
Total, 1st 100 institutions	8,634,127	7,847,113	7,336,487	7,041,541	6,670,108	6,397,930	6,239,043	5,943,753

See explanatory information and SOURCE at end of table.

**Table B-34. Non-Federal R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
101 Temple University	34,231	28,126	27,813	26,439	29,168	27,138	27,052	26,048
102 Oregon Health Sciences U	34,154 <i>i</i>	29,682	28,995	25,297	20,246	17,947	15,765	12,764
103 Virginia Commonwealth U	32,371	33,966	33,564	29,835	28,674	28,320	23,298	20,634
104 Georgetown University	31,810	34,916	30,878	28,093	27,669	25,322	22,278	18,857
105 UT-Houston Hlth Sci Ctr	31,547	28,433	21,347	19,902	19,611	20,122	18,784	21,118
106 Tufts University	30,963	28,147	25,848	26,612	24,077	21,894 <i>e</i>	18,779 <i>e</i>	8,635
107 University of Wyoming	30,694	32,750	25,562	25,097	23,349	17,981	16,883	10,227
108 U TX Hlth Sci Ctr San Ant	30,403	32,541	31,825	32,903	31,864	26,772	24,131	18,998
109 North Dakota State U	30,220	28,765	31,978	28,993	26,100	26,215	25,789	24,835
110 Brown University	29,565	27,747	25,482	18,837	18,282	18,301	17,729	13,932
Total, 1st 110 institutions	8,950,085	8,152,186	7,619,779	7,303,549	6,919,148	6,627,942	6,449,531	6,119,801
111 George Washington U	29,409	20,976	18,773	15,457	14,050	13,479	11,177	6,076
112 U PR Mayaguez	29,278	27,805	24,934	22,345	13,598	14,669	16,121	16,170 <i>i</i>
113 U MA Worcester	29,184	27,996	23,143	25,471	26,867	26,782	17,929	--
114 Vanderbilt University	28,889	23,854	21,319	19,039	17,666	12,498	17,021	9,738
115 Montana St U Bozeman	28,310	29,733	32,430	30,765	20,411	18,815	20,976	20,169
116 U CA Santa Barbara	27,626	20,647	17,884	15,294	14,283	14,718	13,230	12,946
117 Rush University	26,833	25,587	26,292	26,198	24,905	21,252	17,054	20,349
118 U CA Santa Cruz	26,684	19,655	19,335	18,251	18,655	16,065	16,176	15,815
119 Medical Col of Georgia	26,679	26,821	24,633	20,362	18,899	17,222	13,679	4,001
120 U of New Hampshire	26,446	21,758	22,388	21,476	18,675	15,920	12,153	11,075
Total, 1st 120 institutions	9,229,423	8,397,018	7,850,910	7,518,207	7,107,157	6,799,362	6,605,047	6,236,140
121 University of Vermont	26,372	25,484	22,138	21,133	18,080	18,309	16,785	15,681
122 University of Chicago	25,653	28,848	21,570	21,674	19,372	15,947	20,941	19,606
123 Boston University	25,626	22,870	22,320	20,236	17,953	19,565	17,024	14,715
124 U of Nevada Reno	25,093	31,890	27,006	25,406	23,377	21,467	23,461	18,445
125 University of Louisville	24,080	19,913	16,349	13,053	11,201	10,572	10,133	10,102
126 Shrn IL U Carbondale	22,689	21,411	19,742	19,531	20,566	18,939	20,712	21,248
127 San Diego St University	22,194	20,349	26,020	18,851	17,041	15,631	15,004	11,826
128 U of Central Florida	22,028	11,954	2,774	17,070	17,050	21,395	18,478	31,529
129 New Mexico State Univ	20,783	23,859	22,941	24,245	20,654	21,153	21,028	21,214
130 University of Houston	20,279	24,221	23,730	22,360	20,301	20,688	23,076	22,152
Total, 1st 130 institutions	9,464,220	8,627,817	8,055,500	7,721,766	7,292,752	6,983,028	6,791,689	6,422,658
131 Wake Forest University	20,188	21,003	19,486	17,669	15,859	15,785	12,414	10,829
132 U of Maine	20,078	18,078	18,473	16,112	18,007	15,920	14,238	17,020
133 U MD Biotechnology Inst	20,072	20,398	15,404	11,025	8,760	--	--	--
134 Dartmouth College	19,911	18,465	13,263	11,466	16,083	15,828	14,877	15,067
135 Georgia State University	19,869	19,525	12,296	11,590	10,329	6,307	6,005	5,755
136 NJ Inst of Technology	19,855	17,441	18,549	15,831	17,411	15,506	15,348	12,383
137 Med U of South Carolina	19,464	19,321	13,789	21,078	17,742	21,072	14,726	11,510
138 SUNY Col Env Sci Frstry	19,321	17,850	18,948	18,718 <i>i</i>	18,488	18,679	16,029	16,923
139 Yeshiva University	19,000	18,883	18,034	22,607 <i>e</i>	22,163	17,865	19,044	18,890
140 U of Southwestern LA	18,934	17,682	10,493	11,109	9,101	10,189	9,808	9,303
Total, 1st 140 institutions	9,660,912	8,816,463	8,214,235	7,878,971	7,446,695	7,120,179	6,914,178	6,540,338
141 Thomas Jefferson U	17,732	20,137	17,679	16,370	13,717	12,813	12,468	9,966
142 U Arkansas Medical Sci	17,630	18,087	16,558	12,272	9,352	4,722	6,247	6,443
143 Rensselaer Polytech Inst	16,786	16,018	13,169	12,997	15,101	22,026	26,456	26,734
144 SUNY Albany	16,674	16,225	17,852	14,303	19,746	10,542	9,868	8,376
145 The University of Memphis	16,637	15,858	13,475	10,077	9,278	8,236	8,583	9,046
146 U MD Ctr for Environ Sci	16,598	15,137	15,450	15,148	14,365	13,642	14,236	13,348
147 Loyola U of Chicago	16,556	16,223	12,534	12,889 <i>i</i>	13,243	11,002	12,028	7,999
148 Brandeis University	16,491	14,912	13,527	13,710	13,250	14,388	13,429	12,557
149 Col of William & Mary	14,869	13,140	12,163	8,866	10,017	11,458	10,681	11,225
150 SUNY Binghamton	14,549	13,092	12,839	11,447	10,703	8,755	8,232	6,740
Total, 1st 150 institutions	9,825,434	8,975,292	8,359,481	8,007,050	7,575,467	7,237,763	7,036,406	6,652,772

See explanatory information and SOURCE at end of table.

**Table B-34. Non-Federal R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
151 NM Inst Mining & Tech	13,832	11,478	13,375	11,137	13,363	18,667	17,526	17,413i
152 U of Missouri Rolla	13,806	12,815	12,693	15,386	13,234	11,897	10,800	10,072
153 U of Alabama Huntsville	13,174	11,086	12,035	11,319	9,899	9,170	7,585	7,136
154 Lehigh University	13,096	11,569	12,371	13,707	13,825	14,831	14,396	16,042
155 Unif Svcs U of Hlth Sci	12,762	9,594	12,230	13,754	9,210	8,527	7,498i	6,468i
156 Michigan Tech University	12,584	11,199	11,279	9,991	10,802	8,919	9,937	12,797
157 University of Akron	12,284	12,853	10,714	11,358	12,767	13,229	10,582	9,994
158 Eastern VA Med School	12,223	8,491	7,527	7,999	7,711	6,065	4,272	4,019
159 Medical Col of Wisconsin	12,190	12,265	12,838	13,071	18,145	17,428	15,911	15,384
160 Colorado School of Mines	11,987	9,891	9,757	7,738i	5,719	6,594	6,435	6,484
Total, 1st 160 institutions	9,953,372	9,086,533	8,474,300	8,122,510	7,690,142	7,353,090	7,141,348	6,758,581
161 U WI Milwaukee	11,871	11,839	11,653	11,935	11,203	10,790	10,926	10,057
162 Inst Paper Sci and Tech	11,678e	11,678e	9,489i	7,299	7,366	7,033	6,157	6,479
163 U Mississippi, All Camp	11,616	10,535	10,644	9,396	9,164	8,817	7,264	7,811
164 Ohio University	11,146	11,218	10,283	12,126	10,589	10,284	9,955	8,257
165 Creighton University	10,915	7,998	6,595	6,562	4,992	5,147	4,569	5,744
166 Wichita State University	10,471	9,195	7,708	7,140	5,731	4,092	3,710	3,414
167 Tuskegee University	10,460	3,116	830	246	427	346	302	289
168 Woods Hole Oceanograph	10,246	11,021	11,195	7,476	7,126	7,973	8,616	9,825e
169 South Dakota State U	9,819	10,021	9,425	7,826	8,372	9,017	7,941	7,409
170 SUNY Hlth Sci Ctr Brklyn	9,199	10,731	11,569i	12,407	11,078	9,729	8,275	14,875
Total, 1st 170 institutions	10,060,793	9,183,885	8,563,691	8,204,923	7,766,190	7,426,318	7,209,063	6,832,741
171 San Jose State University	9,180e	9,180i	9,180i	9,180i	9,180i	9,180	9,378	4,122
172 The University of Alabama	9,134	10,553	9,568	11,243	10,478	14,566	15,696	15,821
173 Wright State University	8,844	7,290	7,879	9,042	9,764	9,710	8,138	6,599
174 Drexel University	8,674	8,722	7,709	9,945	9,880	8,979	13,315	12,146
175 University of Dayton	8,671	9,241	8,775	8,242	7,774	6,719	6,082	6,793
176 Tennessee Tech U	8,596	7,848	7,938	9,002	8,149	8,212	8,338	8,939
177 The University of Montana	8,385	9,597	9,830	8,732	8,233	7,866	5,153	4,179
178 U MA Boston	8,331	8,119	8,192	6,692	8,580	7,612	5,955	--
179 Syracuse University	8,122	10,862	15,961	14,598	19,341	15,625	17,430	16,414
180 U PR Med Sci Campus	7,987	2,597	2,814	4,921	5,792	4,847	3,677	2,404
Total, 1st 180 institutions	10,146,717	9,267,894	8,651,537	8,296,520	7,863,361	7,519,634	7,302,225	6,910,158
181 Old Dominion University	7,804	7,847	8,311	6,471	7,023	7,047	4,575	3,464
182 U TX Arlington	7,781	10,680	9,206	12,443	12,816	10,839	10,600	10,146
183 Northern Illinois U	7,685	6,444	6,865	6,836	5,207	5,552	5,324	5,457
184 SUNY Hlth Sci Ctr Syrcse	7,602	7,726	7,329	6,323	5,196	5,215	5,492	3,897
185 Cleveland State U	7,515e	7,296e	7,168i	7,039	5,950	4,616	5,897	5,677
186 Western Michigan U	7,509	6,417	6,270	6,280	6,446	6,247	4,763	5,166
187 California Inst of Tech	7,318	13,663	14,531	17,293	15,444	11,551	12,535	14,706
188 U of Nevada Las Vegas	7,199	6,407	5,751	6,804	5,943	8,788	3,294	1,923
189 U MA Lowell	7,113	7,135	8,258	7,408	7,874	8,333	8,008	5,862
190 U TX Dallas	7,096	7,842	7,979	7,623i	7,268	5,340	5,319	5,749
Total, 1st 190 institutions	10,221,339	9,349,351	8,733,205	8,381,040	7,942,528	7,593,162	7,368,032	6,972,205

See explanatory information and SOURCE at end of table.

**Table B-34. Non-Federal R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
191 CUNY Hunter College	7,083	7,142	8,938	6,269	5,108	3,506	3,252	2,551
192 CUNY City College	6,710	7,305	5,997	7,183	5,246	5,616	4,279	4,231
193 U of Missouri Kansas City	6,676	6,354	7,510	7,221	6,662	6,009	5,470	5,177
194 Rice University	6,295	5,666	6,458	8,017	7,637	8,387	8,068	7,739
195 Stevens Inst of Tech	6,277	6,005	6,027	5,089	5,816	3,452	9,145	5,187
196 University of Oregon	6,274	5,467	7,243	6,597	8,966	9,273	9,240	6,840
197 University of North Texas	6,192	6,975	7,758	6,920	7,252	6,749	8,769	8,638
198 University of Toledo	6,146	5,792	4,674e	4,249	4,538	4,714	3,983	3,746
199 Desert Research Institute	6,100	6,100	5,500	6,984	6,187	5,673	9,071	8,153
200 Oregon Grad Inst Sci Tech ...	6,051e	5,763	10,197	10,629	10,401	8,697	5,194	4,198
Total, 1st 200 institutions	10,285,143	9,411,920	8,803,507	8,450,198	8,010,341	7,655,238	7,434,503	7,028,665
Total, all other sampled insts	373,554	356,179	356,200	350,464	337,267	339,035	290,912	322,404

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-35. R&D expenditures at universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 1 of 5

Institution and ranking	Total	Federal Govt.	State & local govt.	Industry	Institutional funds	Other
Total, all institutions	25,735,268	15,076,571	1,927,906	1,870,043	4,999,381	1,861,367
1 Johns Hopkins U	853,620	752,983	525	14,761	40,619	44,732
2 University of Michigan	496,761	311,450	3,962	33,029	107,004	41,316
3 U CA Los Angeles	447,367	233,702	8,676	27,817	114,359	62,813
4 U WI Madison	443,695	240,513	38,627	14,371	97,481	52,703
5 U of Washington	432,383	336,748	9,314	38,370	40,182	7,769
6 U CA Berkeley	420,435	171,135	47,961	20,483	144,016	36,840
7 U CA San Diego	418,790	262,303	19,548	26,814	70,535	39,590
8 MA Institute of Tech	413,098	310,741	2,722	60,538	27,699	11,398
9 Stanford University	410,309	342,426	2,543	27,404	16,641	21,295
10 Texas A&M University	393,720	144,938	90,685	33,674	117,593	6,830
Total, 1st 10 institutions	4,730,178	3,106,939	224,563	297,261	776,129	325,286
11 U CA San Francisco	379,970	219,912	16,024	34,267	64,241	45,526
12 Cornell University	363,511	204,187	37,561	11,253	63,299	47,211
13 Pennsylvania State U	362,643	186,274	13,075	63,319	99,975	0
14 University of Minnesota	360,323	204,741	47,080	24,094	55,465	28,943
15 U of Illinois Urbana	338,841	168,871	35,493	13,917	106,797	13,763
16 U of Pennsylvania	333,477	247,914	3,517	25,593	26,158	30,295
17 University of Colorado	311,203	228,342	5,139	9,963	32,795	34,964
18 Harvard University	306,100	251,876	156	10,361	0	43,707
19 University of Arizona	302,328	161,999	8,874	16,392	103,059	12,004
20 Ohio State University	301,518	124,177	53,987	40,401	59,746	23,207
Total, 1st 20 institutions	8,090,092	5,105,232	445,469	546,821	1,387,664	604,906
21 U CA Davis	288,796	114,912	19,249	14,077	117,639	22,919
22 Duke University	282,388	172,532	6,233	65,114	13,658	24,851
23 University of Florida	274,862	106,510	56,713	21,393	79,558	10,688
24 Washington University	269,550	187,173	5,502	19,869	23,710	33,296
25 U of Southern California	268,806	190,547	7,448	24,125	46,686	0
26 Columbia University	267,007	229,723	2,578	3,018	10,835	20,853
27 Yale University	262,680	205,046	1,197	15,829	16,256	24,352
28 Georgia Institute of Tech	259,233	113,643	13,400	58,377	73,813	0
29 NC State University	254,254	79,533	88,497	31,429	49,831	4,964
30 U TX Austin	244,843	165,082	15,094	31,326	28,445	4,896
Total, 1st 30 institutions	10,762,511	6,669,933	661,380	831,378	1,848,095	751,725
31 U of NC Chapel Hill	235,296	171,505	29,691	4,860	29,240	0
32 U of Alabama Birmingham	227,720	166,830	614	16,842	18,086	25,348
33 Northwestern University	223,235	127,911	3,081	13,292	52,608	26,343
34 U MD College Park	223,190	129,198	37,382	2,127	48,705	5,778
35 University of Georgia	217,945	54,712	42,801	10,534	108,701	1,197
36 Baylor Col of Medicine	216,528	110,610	3,407	16,588	30,777	55,146
37 Purdue University	216,479	92,844	23,614	26,988	72,735	298
38 University of Pittsburgh	213,842	168,511	534	10,436	19,163	15,198
39 Louisiana St U, All Camp	208,928	67,090	69,790	12,157	45,479	14,412
40 U of Iowa	199,063	115,312	5,898	17,262	45,687	14,904
Total, 1st 40 institutions	12,944,737	7,874,456	878,192	962,464	2,319,276	910,349
41 Rutgers the State U NJ	197,053	69,829	23,662	9,038	78,879	15,645
42 Michigan State University	193,611	81,146	35,752	7,250	61,514	7,949
43 California Inst of Tech	185,066	177,748	433	2,001	3,977	907
44 Case Western Reserve U	176,330	132,274	4,865	6,984	18,011	14,196
45 University of Rochester	174,617	130,773	8,904	17,653	6,779	10,508
46 Emory University	172,884	118,045	5,026	7,670	19,673	22,470
47 Indiana University	171,754	95,840	1,683	6,333	48,713	19,185
48 VA Polytech Inst & St U	167,118	82,734	32,883	12,132	35,379	3,990
49 University of Kentucky	161,346	60,760	12,762	13,668	71,635	2,521
50 University of Cincinnati	159,695	90,307	4,256	24,388	35,241	5,503
Total, 1st 50 institutions	14,704,211	8,913,912	1,008,418	1,069,581	2,699,077	1,013,223

See explanatory information and SOURCE at end of table.

**Table B-35. R&D expenditures at universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 2 of 5

Institution and ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
51 Iowa State University	156,766	51,196	46,802	13,717	41,836	3,215
52 New York University	156,452	101,426	1,611	8,391	17,439	27,585
53 U TX SW Med Ctr Dallas	153,711	97,200	5,601	13,926	839	36,145
54 University of IL Chicago	151,739	73,797	3,262	9,424	54,353	10,903
55 SUNY Buffalo	151,650	76,037	3,913	3,021	39,879	28,800
56 University of Chicago	151,635	125,982	605	1,684	8,404	14,960
57 U of Tennessee System	150,694	69,793	27,176	12,551	28,297	12,877
58 Univ of Hawaii Manoa	148,007	86,886	37,002	10,949	13,170	0
59 U of MD Baltimore	143,321	78,037	19,311	20,783	12,209	12,981
60 University of Utah	142,956	100,722	856	10,007	23,498	7,873
Total, 1st 60 institutions	16,211,142	9,774,988	1,154,557	1,174,034	2,939,001	1,168,562
61 SUNY Stony Brook	141,766	91,531	2,241	6,908	34,179	6,907
62 U TX MD Anderson Cnrc	141,260	63,074	0	0	48,260	29,926
63 Colorado State University	140,179	80,451	19,168	6,155	34,271	134
64 Wayne State University	138,456	57,646	12,978	11,207	41,231	15,394
65 Oregon State University	138,240	82,416	28,017	518	14,558	12,731
66 Carnegie Mellon U	137,450	95,046	9,733	19,136	5,910	7,625
67 University of Miami	136,972	101,492	1,450	13,338	7,326	13,366
68 U of Missouri Columbia	136,061	45,448	16,978	4,348	63,165	6,122
69 Vanderbilt University	135,214	106,325	104	4,036	13,008	11,741
70 University of Connecticut	134,448	53,189	11,902	9,905	49,404	10,048
Total, 1st 70 institutions	17,591,188	10,551,606	1,257,128	1,249,585	3,250,313	1,282,556
71 University of Virginia	133,049	93,328	4,159	12,400	11,810	11,352
72 U CA Irvine	130,415	65,902	5,700	15,712	27,607	15,494
73 Boston University	130,054	104,428	1,633	9,461	0	14,532
74 University of Oklahoma	126,861	54,451	13,063	7,661	37,494	14,192
75 University of New Mexico	125,910	84,365	3,490	3,331	30,492	4,232
76 U of Nebraska Lincoln	118,857e	41,888e	39,208e	4,721e	31,243e	1,797e
77 University of Kansas	117,115	50,567	9,662	8,281	35,467	13,138
78 Georgetown University	116,611	84,801	174	9,383	15,237	7,016
79 Princeton University	115,996	69,005	1,215	5,242	28,428	12,106
80 The Rockefeller Univ	115,494	43,845	1,966	2,641	29,350	37,692
Total, 1st 80 institutions	18,821,550	11,244,186	1,337,398	1,328,418	3,497,441	1,414,107
81 U Med & Dent NJ	114,491	59,828	6,242	8,841	28,983	10,597
82 Mt Sinai Sch Med	109,448	69,995	2,524	7,588	14,685	14,656
83 Oregon Health Sciences U	105,208i	71,054i	3,206i	7,680i	14,534i	8,734i
84 U of South Florida	104,325	35,930	7,833	5,397	44,613	10,552
85 UT-Houston Hlth Sci Ctr	101,993	70,446	818	11,106	6,626	12,997
86 Mississippi State U	100,410	42,004	24,227	7,470	26,709	0
87 Yeshiva University	99,000	80,000	0	0	18,000	1,000
88 U CA Santa Barbara	96,034	68,408	1,789	3,666	15,789	6,382
89 Allegheny U of Hlth Sci	95,984	61,102	7,915	6,835	15,377	4,755
90 Washington State U	95,422	44,510	3,302	3,158	34,430	10,022
Total, 1st 90 institutions	19,843,865	11,847,463	1,395,254	1,390,159	3,717,187	1,493,802
91 Florida State University	94,463	50,451	1,659	1,159	36,595	4,599
92 Utah State University	94,228	54,903	16,424	2,744	18,005	2,152
93 U of South Carolina	92,785	42,586	4,390	2,022	40,891	2,896
94 Tufts University	92,130	61,167	687	5,560	17,346	7,370
95 Arizona State University	92,019	41,359	1,628	4,609	41,121	3,302
96 Clemson University	90,150	28,199	20,835	6,641	29,689	4,786
97 U MA Amherst	89,970	43,196	7,072	6,236	26,967	6,499
98 Tulane University	87,858	52,924	3,161	10,734	17,055	3,984
99 Auburn University	87,768	27,706	1,312	4,452	50,639	3,659
100 U TX Med Br Galveston	86,488	48,588	11,506	5,319	10,341	10,734
Total, 1st 100 institutions	20,751,724	12,298,542	1,463,928	1,439,635	4,005,836	1,543,783

See explanatory information and SOURCE at end of table.

**Table B-35. R&D expenditures at universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
101 U TX Hlth Sci Ctr San Ant	85,407	55,004	6,638	10,845	8,138	4,782
102 U MA Worcester	82,950	53,766	15,811	2,631	6,495	4,247
103 Kansas State University	81,233	27,001	32,599	3,445	15,799	2,389
104 Virginia Commonwealth U	80,538	48,167	3,440	8,478	15,552	4,901
105 U CA Riverside	79,775	22,988	4,419	2,001	42,729	7,638
106 New Mexico State Univ	77,370	56,587	7,165	2,843	10,014	761
107 Wake Forest University	76,893	56,705	250	15,546	110	4,282
108 U of Alaska Fairbanks	75,606	31,505	3,680	16,081	24,340	0
109 Woods Hole Oceanograph ...	75,011	64,765	165	209	2,094	7,778
110 George Washington U	74,481	45,072	1,006	7,575	9,885	10,943
Total, 1st 110 institutions	21,540,988	12,760,102	1,539,101	1,509,289	4,140,992	1,591,504
111 Brown University	73,977	44,412	57	1,603	24,724	3,181
112 U Arkansas Main	71,686	16,156	31,935	5,145	15,523	2,927
113 Oklahoma State University ...	71,466	23,220	23,412	2,887	21,381	566
114 University of Delaware	69,896	33,688	4,600	3,859	19,222	8,527
115 Thomas Jefferson U	69,460	51,728	1,727	10,155	772	5,078
116 Dartmouth College	64,964	45,053	2,827	2,574	8,375	6,135
117 Temple University	63,024	28,793	933	8,855	19,831	4,612
118 West Virginia University	62,362	24,985	2,954	4,547	25,951	3,925
119 University of Idaho	58,967	18,352	19,069	6,496	14,252	798
120 University of Vermont	57,832	31,460	2,648	5,513	11,920	6,291
Total, 1st 120 institutions	22,204,622	13,077,949	1,629,263	1,560,923	4,302,943	1,633,544
121 U CA Santa Cruz	56,533	29,849	1,665	1,458	18,800	4,761
122 Medical Col of Wisconsin	56,021	43,831	2	1,692	5,642	4,854
123 Med U of South Carolina	55,937	36,473	1,844	2,737	11,993	2,890
124 Rush University	55,277	28,444	14	8,911	13,987	3,921
125 Texas Tech University	53,126	17,481	15,896	5,549	11,466	2,734
126 U of New Hampshire	52,359	25,913	5,473	3,635	9,064	8,274
127 Montana St U Bozeman	52,292	23,982	12,517 <i>i</i>	7,378 <i>i</i>	8,415 <i>i</i>	0 <i>i</i>
128 U PR Mayaguez	51,181	21,903	21,975	2,701	2,800	1,802
129 SUNY Albany	50,568	33,894	2,909	1,426	5,083	7,256
130 U of NE Med Ctr Omaha	50,453	15,663	6,055	5,471	20,070	3,194
Total, 1st 130 institutions	22,738,369	13,355,382	1,697,613	1,601,881	4,410,263	1,673,230
131 University of Wyoming	48,500	17,806	5,366	3,114	21,275	939
132 U of Nevada Reno	45,476	20,383	1,485	1,394	19,624	2,590
133 University of Dayton	45,000	36,329	693	6,285	1,568	125
134 Brandeis University	44,589	28,098	151	0	4,801	11,539
135 University of Houston	42,297	22,018	9,249	1,707	5,428	3,895
136 San Diego St University	41,915	19,721	3,156	853	13,459	4,726
137 Rice University	41,067	34,772	2,297	1,435	0	2,563
138 NJ Inst of Technology	40,982	21,127	6,968	1,258	10,854	775
139 North Dakota State U	40,007	9,787	1,068	1,449	25,558	2,145
140 Medical Col of Georgia	39,806	13,127	1,415	3,072	20,493	1,699
Total, 1st 140 institutions	23,168,008	13,578,550	1,729,461	1,622,448	4,533,323	1,704,226
141 U Arkansas Medical Sci	39,487	21,857	543	3,040	9,820	4,227
142 University of Louisville	39,147	15,067	1,492	4,800	11,566	6,222
143 Rensselaer Polytech Inst	38,560	21,774	2,226	10,974	2,916	670
144 U of Rhode Island	37,940	33,308	2,800	442	1,390	0
145 Tuskegee University	37,354	26,894	171	0	0	10,289
146 Syracuse University	37,322	29,200	3,210	1,418	1,694	1,800
147 U of Alabama Huntsville	36,946	23,772	1,300	5,883	5,991	0
148 U of Central Florida	35,530	13,502	4,329	4,019	13,680	0
149 Loyola U of Chicago	34,241	17,685	1,889	3,024	6,145	5,498
150 US Naval Postgrad School ...	34,095	33,308	210	287	0	290
Total, 1st 150 institutions	23,538,630	13,814,917	1,747,631	1,656,335	4,586,525	1,733,222

See explanatory information and SOURCE at end of table.

**Table B-35. R&D expenditures at universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
151 University of Oregon	33,315	27,041	247	135	3,625	2,267
152 U of Maine	33,106	13,028	1,796	7,074	10,810	398
153 U MD Biotechnology Inst	31,861	11,789	581	986	15,955	2,550
154 Georgia State University	31,153	11,284	4,144	832	13,397	1,496
155 Sthrn IL U Carbondale	30,490	7,801	7,114	2,306	10,325	2,944
156 Clark Atlanta University	29,637	24,079	2,318 i	899 i	84 i	2,257 i
157 University of Notre Dame	28,873	23,053	139	2,020	3,661	0
158 U Mississippi, All Camp	28,079	16,463	4,293	1,887	3,505	1,931
159 SUNY Hlth Sci Ctr Brklyn	27,517	18,318	36	3,045	4,136	1,982
160 Saint Louis University	26,943	23,341	256	2,733	264	349
Total, 1st 160 institutions	23,839,604	13,991,114	1,768,555	1,678,252	4,652,287	1,749,396
161 Michigan Tech University	26,522	13,938	1,417	3,747	5,738	1,682
162 Northeastern University	26,385	21,454	593	3,530	808	0
163 Lehigh University	26,115	13,019	4,112	6,074	2,635	275
164 Col of William & Mary	25,966	11,097	2,963	571	10,790	545
165 U of Southwestern LA	24,768	5,834	2,321	0	15,446	1,167
166 The University of Alabama	24,043	14,909	2,818	1,301	5,011	4
167 U MD Ctr for Environ Sci	24,038	7,440	3,017	79	11,082	2,420
168 Howard University	23,673	21,501	403	1,519	3	247
169 NM Inst Mining & Tech	22,791	8,959	1,900	6,385	5,274	273
170 George Mason University	22,543	17,268	1,155	210	606	3,304
Total, 1st 170 institutions	24,086,448	14,126,533	1,789,254	1,701,668	4,709,680	1,759,313
171 The University of Memphis ...	22,486	5,849	4,497	784	9,831	1,525
172 SUNY Col Env Sci Frstry	22,036	2,715	1,785	1,768	15,242	526
173 U of Missouri Rolla	21,740	7,934	182	1,361	10,838	1,425
174 Eastern VA Med School	21,672	9,449	51	7,448	110	4,614
175 Desert Research Institute	21,500	15,400	1,500	1,500	1,500	1,600
176 Ohio University	21,469	10,323	1,862	1,948	6,089	1,247
177 CUNY City College	21,147	14,437	2,910	950	0	2,850
178 Oregon Grad Inst Sci Tech ...	21,047e	14,996e	677e	1,316e	3,198e	860e
179 San Jose State University	21,005e	11,825e	2,537e	4,324e	1,655e	664e
180 U WI Milwaukee	20,807	8,936	4,192	554	6,039	1,086
Total, 1st 180 institutions	24,301,357	14,228,397	1,809,447	1,723,621	4,764,182	1,775,710
181 SUNY Binghamton	20,754	6,205	2,616	2,726	6,848	2,359
182 Colorado School of Mines	20,681	8,694	1,347	9,877	763	0
183 Unif Svcs U of Hlth Sci	20,309	7,547	0	0	12,762	0
184 Old Dominion University	20,150	12,346	3,858	1,974	1,972	0
185 The University of Montana	20,133	11,748	1,267	1,059	5,020	1,039
186 U PR Med Sci Campus	19,830	11,843	57	2,548	5,382	0
187 Wright State University	19,676	10,832	1,756	1,325	5,378	385
188 Drexel University	19,603	10,929	938	4,057	3,679	0
189 U MA Lowell	19,372	12,259	530	5,099	1,484	0
190 New York Medical College	19,159	13,639	58	2,461	0	3,001
Total, 1st 190 institutions	24,501,024	14,334,439	1,821,874	1,754,747	4,807,470	1,782,494

See explanatory information and SOURCE at end of table.

**Table B-35. R&D expenditures at universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
191 U TX Arlington	19,075	11,294	1,833	2,642	3,306	0
192 Florida A&M University	19,066	15,726	3,340	0	0	0
193 U MD Baltimore County	18,155	12,618	1,553	2,858	1,126	0
194 Florida International U	17,880	14,243	1,474	559	1,171	433
195 Boston College	17,774	12,778	369	577	2,744	1,306
196 C R Drew U of Med & Sci	17,205e	16,052e	0	1,153e	0	0
197 Univ of North Dakota	16,938	13,404	55	2,357	533	589
198 U of Nevada Las Vegas	16,912	9,713	1,548	2,461	3,190	0
199 University of Akron	16,326	4,042	1,296	2,767	5,288	2,933
200 Western Illinois U	15,882	10,867	2,686	315	1,304	710
Total, 1st 200 institutions	24,676,237	14,455,176	1,836,028	1,770,436	4,826,132	1,788,465
Total, all other sampled insts	1,059,031	621,395	91,878	99,607	173,249	72,902

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-36. R&D expenditures at public universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 1 of 4

Institution and ranking	Total	Federal Govt.	State & local govt.	Industry	Institutional funds	Other
Total, all institutions	17,391,022	9,016,467	1,757,863	1,267,036	4,218,736	1,130,920
1 University of Michigan	496,761	311,450	3,962	33,029	107,004	41,316
2 U CA Los Angeles	447,367	233,702	8,676	27,817	114,359	62,813
3 U WI Madison	443,695	240,513	38,627	14,371	97,481	52,703
4 U of Washington	432,383	336,748	9,314	38,370	40,182	7,769
5 U CA Berkeley	420,435	171,135	47,961	20,483	144,016	36,840
6 U CA San Diego	418,790	262,303	19,548	26,814	70,535	39,590
7 Texas A&M University	393,720	144,938	90,685	33,674	117,593	6,830
8 U CA San Francisco	379,970	219,912	16,024	34,267	64,241	45,526
9 Pennsylvania State U	362,643	186,274	13,075	63,319	99,975	0
10 University of Minnesota	360,323	204,741	47,080	24,094	55,465	28,943
Total, 1st 10 institutions	4,156,087	2,311,716	294,952	316,238	910,851	322,330
11 U of Illinois Urbana	338,841	168,871	35,493	13,917	106,797	13,763
12 University of Colorado	311,203	228,342	5,139	9,963	32,795	34,964
13 University of Arizona	302,328	161,999	8,874	16,392	103,059	12,004
14 Ohio State University	301,518	124,177	53,987	40,401	59,746	23,207
15 U CA Davis	288,796	114,912	19,249	14,077	117,639	22,919
16 University of Florida	274,862	106,510	56,713	21,393	79,558	10,688
17 Georgia Institute of Tech	259,233	113,643	13,400	58,377	73,813	0
18 NC State University	254,254	79,533	88,497	31,429	49,831	4,964
19 U TX Austin	244,843	165,082	15,094	31,326	28,445	4,896
20 U of NC Chapel Hill	235,296	171,505	29,691	4,860	29,240	0
Total, 1st 20 institutions	6,967,261	3,746,290	621,089	558,373	1,591,774	449,735
21 U of Alabama Birmingham	227,720	166,830	614	16,842	18,086	25,348
22 U MD College Park	223,190	129,198	37,382	2,127	48,705	5,778
23 University of Georgia	217,945	54,712	42,801	10,534	108,701	1,197
24 Purdue University	216,479	92,844	23,614	26,988	72,735	298
25 University of Pittsburgh	213,842	168,511	534	10,436	19,163	15,198
26 Louisiana St U, All Camp	208,928	67,090	69,790	12,157	45,479	14,412
27 U of Iowa	199,063	115,312	5,898	17,262	45,687	14,904
28 Rutgers the State U NJ	197,053	69,829	23,662	9,038	78,879	15,645
29 Michigan State University	193,611	81,146	35,752	7,250	61,514	7,949
30 Indiana University	171,754	95,840	1,683	6,333	48,713	19,185
Total, 1st 30 institutions	9,036,846	4,787,602	862,819	677,340	2,139,436	569,649
31 VA Polytech Inst & St U	167,118	82,734	32,883	12,132	35,379	3,990
32 University of Kentucky	161,346	60,760	12,762	13,668	71,635	2,521
33 University of Cincinnati	159,695	90,307	4,256	24,388	35,241	5,503
34 Iowa State University	156,766	51,196	46,802	13,717	41,836	3,215
35 U TX SW Med Ctr Dallas	153,711	97,200	5,601	13,926	839	36,145
36 University of IL Chicago	151,739	73,797	3,262	9,424	54,353	10,903
37 SUNY Buffalo	151,650	76,037	3,913	3,021	39,879	28,800
38 U of Tennessee System	150,694	69,793	27,176	12,551	28,297	12,877
39 Univ of Hawaii Manoa	148,007	86,886	37,002	10,949	13,170	0
40 U of MD Baltimore	143,321	78,037	19,311	20,783	12,209	12,981
Total, 1st 40 institutions	10,580,893	5,554,349	1,055,787	811,899	2,472,274	686,584
41 University of Utah	142,956	100,722	856	10,007	23,498	7,873
42 SUNY Stony Brook	141,766	91,531	2,241	6,908	34,179	6,907
43 U TX MD Anderson Cncr	141,260	63,074	0	0	48,260	29,926
44 Colorado State University	140,179	80,451	19,168	6,155	34,271	134
45 Wayne State University	138,456	57,646	12,978	11,207	41,231	15,394
46 Oregon State University	138,240	82,416	28,017	518	14,558	12,731
47 U of Missouri Columbia	136,061	45,448	16,978	4,348	63,165	6,122
48 University of Connecticut	134,448	53,189	11,902	9,905	49,404	10,048
49 University of Virginia	133,049	93,328	4,159	12,400	11,810	11,352
50 U CA Irvine	130,415	65,902	5,700	15,712	27,607	15,494
Total, 1st 50 institutions	11,957,723	6,288,056	1,157,786	889,059	2,820,257	802,565

See explanatory information and SOURCE at end of table.

**Table B-36. R&D expenditures at public universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Federal Govt.	State & local govt.	Industry	Institutional funds	Other
51 University of Oklahoma	126,861	54,451	13,063	7,661	37,494	14,192
52 University of New Mexico	125,910	84,365	3,490	3,331	30,492	4,232
53 U of Nebraska Lincoln	118,857e	41,888e	39,208e	4,721e	31,243e	1,797e
54 University of Kansas	117,115	50,567	9,662	8,281	35,467	13,138
55 U Med & Dent NJ	114,491	59,828	6,242	8,841	28,983	10,597
56 Oregon Health Sciences U	105,208i	71,054i	3,206i	7,680i	14,534i	8,734i
57 U of South Florida	104,325	35,930	7,833	5,397	44,613	10,552
58 UT-Houston Hlth Sci Ctr	101,993	70,446	818	11,106	6,626	12,997
59 Mississippi State U	100,410	42,004	24,227	7,470	26,709	0
60 U CA Santa Barbara	96,034	68,408	1,789	3,666	15,789	6,382
Total, 1st 60 institutions	13,068,927	6,866,997	1,267,324	957,213	3,092,207	885,186
61 Washington State U	95,422	44,510	3,302	3,158	34,430	10,022
62 Florida State University	94,463	50,451	1,659	1,159	36,595	4,599
63 Utah State University	94,228	54,903	16,424	2,744	18,005	2,152
64 U of South Carolina	92,785	42,586	4,390	2,022	40,891	2,896
65 Arizona State University	92,019	41,359	1,628	4,609	41,121	3,302
66 Clemson University	90,150	28,199	20,835	6,641	29,689	4,786
67 U MA Amherst	89,970	43,196	7,072	6,236	26,967	6,499
68 Auburn University	87,768	27,706	1,312	4,452	50,639	3,659
69 U TX Med Br Galveston	86,488	48,588	11,506	5,319	10,341	10,734
70 U TX Hlth Sci Ctr San Ant	85,407	55,004	6,638	10,845	8,138	4,782
Total, 1st 70 institutions	13,977,627	7,303,499	1,342,090	1,004,398	3,389,023	938,617
71 U MA Worcester	82,950	53,766	15,811	2,631	6,495	4,247
72 Kansas State University	81,233	27,001	32,599	3,445	15,799	2,389
73 Virginia Commonwealth U	80,538	48,167	3,440	8,478	15,552	4,901
74 U CA Riverside	79,775	22,988	4,419	2,001	42,729	7,638
75 New Mexico State Univ	77,370	56,587	7,165	2,843	10,014	761
76 U of Alaska Fairbanks	75,606	31,505	3,680	16,081	24,340	0
77 U Arkansas Main	71,686	16,156	31,935	5,145	15,523	2,927
78 Oklahoma State University	71,466	23,220	23,412	2,887	21,381	566
79 University of Delaware	69,896	33,688	4,600	3,859	19,222	8,527
80 Temple University	63,024	28,793	933	8,855	19,831	4,612
Total, 1st 80 institutions	14,731,171	7,645,370	1,470,084	1,060,623	3,579,909	975,185
81 West Virginia University	62,362	24,985	2,954	4,547	25,951	3,925
82 University of Idaho	58,967	18,352	19,069	6,496	14,252	798
83 University of Vermont	57,832	31,460	2,648	5,513	11,920	6,291
84 U CA Santa Cruz	56,533	29,849	1,665	1,458	18,800	4,761
85 Med U of South Carolina	55,937	36,473	1,844	2,737	11,993	2,890
86 Texas Tech University	53,126	17,481	15,896	5,549	11,466	2,734
87 U of New Hampshire	52,359	25,913	5,473	3,635	9,064	8,274
88 Montana St U Bozeman	52,292	23,982	12,517i	7,378i	8,415i	0i
89 U PR Mayaguez	51,181	21,903	21,975	2,701	2,800	1,802
90 SUNY Albany	50,568	33,894	2,909	1,426	5,083	7,256
Total, 1st 90 institutions	15,282,328	7,909,662	1,557,034	1,102,063	3,699,653	1,013,916
91 U of NE Med Ctr Omaha	50,453	15,663	6,055	5,471	20,070	3,194
92 University of Wyoming	48,500	17,806	5,366	3,114	21,275	939
93 U of Nevada Reno	45,476	20,383	1,485	1,394	19,624	2,590
94 University of Houston	42,297	22,018	9,249	1,707	5,428	3,895
95 San Diego St University	41,915	19,721	3,156	853	13,459	4,726
96 NJ Inst of Technology	40,982	21,127	6,968	1,258	10,854	775
97 North Dakota State U	40,007	9,787	1,068	1,449	25,558	2,145
98 Medical Col of Georgia	39,806	13,127	1,415	3,072	20,493	1,699
99 U Arkansas Medical Sci	39,487	21,857	543	3,040	9,820	4,227
100 University of Louisville	39,147	15,067	1,492	4,800	11,566	6,222
Total, 1st 100 institutions	15,710,398	8,086,218	1,593,831	1,128,221	3,857,800	1,044,328

See explanatory information and SOURCE at end of table.

**Table B-36. R&D expenditures at public universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 3 of 4

Institution and ranking	Total	Federal Govt.	State & local govt.	Industry	Institutional funds	Other
101 U of Rhode Island	37,940	33,308	2,800	442	1,390	0
102 U of Alabama Huntsville	36,946	23,772	1,300	5,883	5,991	0
103 U of Central Florida	35,530	13,502	4,329	4,019	13,680	0
104 US Naval Postgrad School	34,095	33,308	210	287	0	290
105 University of Oregon	33,315	27,041	247	135	3,625	2,267
106 U of Maine	33,106	13,028	1,796	7,074	10,810	398
107 U MD Biotechnology Inst	31,861	11,789	581	986	15,955	2,550
108 Georgia State University	31,153	11,284	4,144	832	13,397	1,496
109 Sthrn IL U Carbondale	30,490	7,801	7,114	2,306	10,325	2,944
110 U Mississippi, All Camp	28,079	16,463	4,293	1,887	3,505	1,931
Total, 1st 110 institutions	16,042,913	8,277,514	1,620,645	1,152,072	3,936,478	1,056,204
111 SUNY Hlth Sci Ctr Brklyn	27,517	18,318	36	3,045	4,136	1,982
112 Michigan Tech University	26,522	13,938	1,417	3,747	5,738	1,682
113 Col of William & Mary	25,966	11,097	2,963	571	10,790	545
114 U of Southwestern LA	24,768	5,834	2,321	0	15,446	1,167
115 The University of Alabama	24,043	14,909	2,818	1,301	5,011	4
116 U MD Ctr for Environ Sci	24,038	7,440	3,017	79	11,082	2,420
117 NM Inst Mining & Tech	22,791	8,959	1,900	6,385	5,274	273
118 George Mason University	22,543	17,268	1,155	210	606	3,304
119 The University of Memphis	22,486	5,849	4,497	784	9,831	1,525
120 SUNY Col Env Sci Frstry	22,036	2,715	1,785	1,768	15,242	526
Total, 1st 120 institutions	16,285,623	8,383,841	1,642,554	1,169,962	4,019,634	1,069,632
121 U of Missouri Rolla	21,740	7,934	182	1,361	10,838	1,425
122 Desert Research Institute	21,500	15,400	1,500	1,500	1,500	1,600
123 Ohio University	21,469	10,323	1,862	1,948	6,089	1,247
124 CUNY City College	21,147	14,437	2,910	950	0	2,850
125 San Jose State University	21,005e	11,825e	2,537e	4,324e	1,655e	664e
126 U WI Milwaukee	20,807	8,936	4,192	554	6,039	1,086
127 SUNY Binghamton	20,754	6,205	2,616	2,726	6,848	2,359
128 Colorado School of Mines	20,681	8,694	1,347	9,877	763	0
129 Unif Svcs U of Hlth Sci	20,309	7,547	0	0	12,762	0
130 Old Dominion University	20,150	12,346	3,858	1,974	1,972	0
Total, 1st 130 institutions	16,495,185	8,487,488	1,663,558	1,195,176	4,068,100	1,080,863
131 The University of Montana	20,133	11,748	1,267	1,059	5,020	1,039
132 U PR Med Sci Campus	19,830	11,843	57	2,548	5,382	0
133 Wright State University	19,676	10,832	1,756	1,325	5,378	385
134 U MA Lowell	19,372	12,259	530	5,099	1,484	0
135 U TX Arlington	19,075	11,294	1,833	2,642	3,306	0
136 Florida A&M University	19,066	15,726	3,340	0	0	0
137 U MD Baltimore County	18,155	12,618	1,553	2,858	1,126	0
138 Florida International U	17,880	14,243	1,474	559	1,171	433
139 Univ of North Dakota	16,938	13,404	55	2,357	533	589
140 U of Nevada Las Vegas	16,912	9,713	1,548	2,461	3,190	0
Total, 1st 140 institutions	16,682,222	8,611,168	1,676,971	1,216,084	4,094,690	1,083,309

See explanatory information and SOURCE at end of table.

**Table B-36. R&D expenditures at public universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 4 of 4

Institution and ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
141 University of Akron	16,326	4,042	1,296	2,767	5,288	2,933
142 Western Illinois U	15,882	10,867	2,686	315	1,304	710
143 South Dakota State U	15,631	5,812	6,994	443	1,294	1,088
144 U TX Dallas	15,211	8,115	1,538	981	3,346	1,231
145 NC A&T State University	14,816	12,924	46	239	1,229	378
146 Florida Atlantic U	14,265	9,582	702	3,981	0	0
147 Alabama A&M University	14,143	10,518	417	22	2,335	851
148 U TX El Paso	14,092	10,758	1,483	776	1,075	0
149 SUNY Hlth Sci Ctr Syrcse	14,089	6,487	234	241	614	6,513
150 CUNY Hunter College	13,497	6,414	342	571	4,496	1,674
Total, 1st 150 institutions	16,830,174	8,696,687	1,692,709	1,226,420	4,115,671	1,098,687
Total, all other sampled insts	560,848	319,780	65,154	40,616	103,065	32,233

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-37. R&D expenditures at private universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total	Federal Govt.	State & local govt.	Industry	Institutional funds	Other
Total, all institutions	8,344,246	6,060,104	170,043	603,007	780,645	730,447
1 Johns Hopkins U	853,620	752,983	525	14,761	40,619	44,732
2 MA Institute of Tech	413,098	310,741	2,722	60,538	27,699	11,398
3 Stanford University	410,309	342,426	2,543	27,404	16,641	21,295
4 Cornell University	363,511	204,187	37,561	11,253	63,299	47,211
5 U of Pennsylvania	333,477	247,914	3,517	25,593	26,158	30,295
6 Harvard University	306,100	251,876	156	10,361	0	43,707
7 Duke University	282,388	172,532	6,233	65,114	13,658	24,851
8 Washington University	269,550	187,173	5,502	19,869	23,710	33,296
9 U of Southern California	268,806	190,547	7,448	24,125	46,686	0
10 Columbia University	267,007	229,723	2,578	3,018	10,835	20,853
Total, 1st 10 institutions	3,767,866	2,890,102	68,785	262,036	269,305	277,638
11 Yale University	262,680	205,046	1,197	15,829	16,256	24,352
12 Northwestern University	223,235	127,911	3,081	13,292	52,608	26,343
13 Baylor Col of Medicine	216,528	110,610	3,407	16,588	30,777	55,146
14 California Inst of Tech	185,066	177,748	433	2,001	3,977	907
15 Case Western Reserve U	176,330	132,274	4,865	6,984	18,011	14,196
16 University of Rochester	174,617	130,773	8,904	17,653	6,779	10,508
17 Emory University	172,884	118,045	5,026	7,670	19,673	22,470
18 New York University	156,452	101,426	1,611	8,391	17,439	27,585
19 University of Chicago	151,635	125,982	605	1,684	8,404	14,960
20 Carnegie Mellon U	137,450	95,046	9,733	19,136	5,910	7,625
Total, 1st 20 institutions	5,624,743	4,214,963	107,647	371,264	449,139	481,730
21 University of Miami	136,972	101,492	1,450	13,338	7,326	13,366
22 Vanderbilt University	135,214	106,325	104	4,036	13,008	11,741
23 Boston University	130,054	104,428	1,633	9,461	0	14,532
24 Georgetown University	116,611	84,801	174	9,383	15,237	7,016
25 Princeton University	115,996	69,005	1,215	5,242	28,428	12,106
26 The Rockefeller Univ	115,494	43,845	1,966	2,641	29,350	37,692
27 Mt Sinai Sch Med	109,448	69,995	2,524	7,588	14,685	14,656
28 Yeshiva University	99,000	80,000	0	0	18,000	1,000
29 Allegheny U of Hlth Sci	95,984	61,102	7,915	6,835	15,377	4,755
30 Tufts University	92,130	61,167	687	5,560	17,346	7,370
Total, 1st 30 institutions	6,771,646	4,997,123	125,315	435,348	607,896	605,964
31 Tulane University	87,858	52,924	3,161	10,734	17,055	3,984
32 Wake Forest University	76,893	56,705	250	15,546	110	4,282
33 Woods Hole Oceanograph	75,011	64,765	165	209	2,094	7,778
34 George Washington U	74,481	45,072	1,006	7,575	9,885	10,943
35 Brown University	73,977	44,412	57	1,603	24,724	3,181
36 Thomas Jefferson U	69,460	51,728	1,727	10,155	772	5,078
37 Dartmouth College	64,964	45,053	2,827	2,574	8,375	6,135
38 Medical Col of Wisconsin	56,021	43,831	2	1,692	5,642	4,854
39 Rush University	55,277	28,444	14	8,911	13,987	3,921
40 University of Dayton	45,000	36,329	693	6,285	1,568	125
Total, 1st 40 institutions	7,450,588	5,466,386	135,217	500,632	692,108	656,245
41 Brandeis University	44,589	28,098	151	0	4,801	11,539
42 Rice University	41,067	34,772	2,297	1,435	0	2,563
43 Rensselaer Polytech Inst	38,560	21,774	2,226	10,974	2,916	670
44 Tuskegee University	37,354	26,894	171	0	0	10,289
45 Syracuse University	37,322	29,200	3,210	1,418	1,694	1,800
46 Loyola U of Chicago	34,241	17,685	1,889	3,024	6,145	5,498
47 Clark Atlanta University	29,637	24,079	2,318 <i>i</i>	899 <i>i</i>	84 <i>i</i>	2,257 <i>i</i>
48 University of Notre Dame	28,873	23,053	139	2,020	3,661	0
49 Saint Louis University	26,943	23,341	256	2,733	264	349
50 Northeastern University	26,385	21,454	593	3,530	808	0
Total, 1st 50 institutions	7,795,559	5,716,736	148,467	526,665	712,481	691,210

See explanatory information and SOURCE at end of table.

**Table B-37. R&D expenditures at private universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total	Federal Govt.	State & local govts.	Industry	Institutional funds	Other
51 Lehigh University	26,115	13,019	4,112	6,074	2,635	275
52 Howard University	23,673	21,501	403	1,519	3	247
53 Eastern VA Med School	21,672	9,449	51	7,448	110	4,614
54 Oregon Grad Inst Sci Tech	21,047e	14,996e	677e	1,316e	3,198e	860e
55 Drexel University	19,603	10,929	938	4,057	3,679	0
56 New York Medical College	19,159	13,639	58	2,461	0	3,001
57 Boston College	17,774	12,778	369	577	2,744	1,306
58 C R Drew U of Med & Sci	17,205e	16,052e	0	1,153e	0	0
59 Inst Paper Sci and Tech	15,424e	3,746e	470e	1,976e	8,285e	947e
60 Creighton University	15,011	4,096	1,084	6,475	3,255	101
Total, 1st 60 institutions	7,992,242	5,836,941	156,629	559,721	736,390	702,561
61 Mercer University	14,995	12,043	30	1,718	1,204	0
62 Illinois Inst of Tech	14,013	9,946	162	2,469	1,436	0
63 Morehouse School of Med	13,614	12,461	0	742	397	14
64 Stevens Inst of Tech	12,944	6,667	1,385	2,748	2,144	0
65 Loma Linda University	12,788	7,834	128	3,192	1,533	101
66 Brigham Young University	11,963	9,694	276	751	1,058	184
67 Meharry Medical College	11,212e	11,004e	0	0	0	208e
68 University of Denver	10,589	9,385	61	776	195	172
69 Worcester Polytech Inst	9,637	5,230	98	1,485	1,955	869
70 Catholic U of America	9,418	7,161	8	1,004	599	646
Total, 1st 70 institutions	8,113,415	5,928,366	158,777	574,606	746,911	704,755
71 Albany Medical College	8,236	6,545	0	0	1,146	545
72 University of Tulsa	8,235	4,002	931	2,772	530	0
73 Rochester Inst of Tech	8,133e	2,339e	355e	1,462e	3,977e	0
74 Southern Methodist U	7,964	4,836	373	692	1,581	482
75 Hampton University	7,140	6,801	0	0	339	0
76 Teachers Col, Columbia U	6,775	2,900	83	0	0	3,792
77 Marquette University	6,763	3,510	703	1,641	399	510
78 Finch U Hlth Sci Chicago	6,672e	5,022e	0	140e	807e	703e
79 Polytechnic University	6,373	2,843	1,437	2,093	0	0
80 Clarkson University	6,345	3,010	594	1,500	1,241	0
Total, 1st 80 institutions	8,186,051	5,970,174	163,253	584,906	756,931	710,787
81 Florida Inst of Tech	5,848	2,152	1,467	1,822	407	0
82 Xavier University of LA	5,388	5,355	33	0	0	0
83 Alfred University	5,275	1,348	921	1,946	705	355
84 Wesleyan University	5,146	3,570	58	9	1,108	401
85 Wellesley College	4,943e	2,304e	31e	27e	800e	1,781e
86 Villanova University	4,714	1,555i	647i	497i	831i	1,184i
87 Johnson C Smith U	4,299	4,299	0	0	0	0
88 Bryn Mawr College	4,231	910	25	128	3,168	0
89 New School University	3,705	773	13	0	0	2,919
90 American University	3,453	3,163	2	0	141	147
Total, 1st 90 institutions	8,233,053	5,995,603	166,450	589,335	764,091	717,574

See explanatory information and SOURCE at end of table.

**Table B-37. R&D expenditures at private universities and colleges,
by source of funds: fiscal year 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total	Federal Govt.	State & local govt.s.	Industry	Institutional funds	Other
91 Texas Christian U	3,125	2,493	152	393	87	0
92 Hampshire College	2,972	1,264	1	0	40	1,667
93 Ponce School of Medicine	2,953i	2,757i	0i	0i	56i	140i
94 Fisk University	2,909	2,909	0	0	0	0
95 Institute of Textile Tech	2,776	0	0	2,650	126	0
96 Embry-Riddle Aero Univ	2,647	1,432	14	104	1,097	0
97 U Ctrl Del Caribe Esc Med ...	2,588i	2,191i	0i	0i	397i	0i
98 Seton Hall University	2,400	1,243	0	0	1,157	0
99 Baylor Col of Dentistry	2,359	1,337	163	130	660	69
100 Fordham University	2,247	769	90	0	402	986
Total, 1st 100 institutions	8,260,029	6,011,998	166,870	592,612	768,113	720,436
Total, all other sampled insts	84,217	48,106	3,173	10,395	12,532	10,011

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-38. Industry-sponsored R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

Page 1 of 5

Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
Total, all institutions	1,870,043	1,699,868	1,595,972	1,480,684	1,415,028	1,360,357	1,278,952	1,203,887
1 Duke University	65,114	48,178	42,797	32,560	30,241	34,572	31,977	22,876
2 Pennsylvania State U	63,319	56,666	52,771	50,225	45,408	41,736	42,693	37,587
3 MA Institute of Tech	60,538	59,204	62,699	52,757	55,500	58,106	49,828	45,712
4 Georgia Institute of Tech	58,377	48,094	39,136	26,104	27,832	28,872	23,776	22,496
5 Ohio State University	40,401	36,685	30,870	21,827	14,883	13,647	13,994	15,409
6 U of Washington	38,370	37,744	36,180	36,892	33,199	30,780	26,442	26,033
7 U CA San Francisco	34,267	22,025	16,989	13,890	10,977	9,244	6,573	5,475
8 Texas A&M University	33,674	31,816	26,947	31,452	28,576	27,182	28,675	23,050
9 University of Michigan	33,029	31,411	34,975	28,987	26,732	26,733	24,992	24,717
10 NC State University	31,429	26,834	26,067	26,264	22,101	22,229	20,342	20,961
Total, 1st 10 institutions	458,518	398,657	369,431	320,958	295,449	293,101	269,292	244,316
11 U TX Austin	31,326	29,887	15,029	3,257 <i>i</i>	4,268	4,106	4,814	5,734
12 U CA Los Angeles	27,817	19,586	15,788	14,892	13,394	13,606	14,671	8,619
13 Stanford University	27,404	23,839	19,167	16,446	14,714	15,337	14,454	11,935
14 Purdue University	26,988	26,090	25,720	25,147	21,639	13,174	12,607	11,962
15 U CA San Diego	26,814	19,266	15,130	11,363	9,764	10,081	7,485	11,225
16 U of Pennsylvania	25,593	18,964	9,445	11,900	12,107	11,440	10,034	7,171
17 University of Cincinnati	24,388	22,907	16,697	8,630	10,405	10,621	4,685	4,050
18 U of Southern California	24,125	21,606	21,592	17,668	14,502	13,444	15,529	13,852
19 University of Minnesota	24,094	24,196	23,726	23,427	23,726	21,524	17,529	19,270
20 University of Florida	21,393	25,217	23,532	10,611	10,858	11,105	11,849	13,376
Total, 1st 20 institutions	718,460	630,215	555,257	464,299	430,826	417,539	382,949	351,510
21 U of MD Baltimore	20,783	18,581	19,450	17,797	15,411	14,420	13,724	11,898
22 U CA Berkeley	20,483	17,125	15,128	13,842	12,547	12,269	12,553	11,970
23 Washington University	19,869	21,205	18,700	21,977	20,629	19,388	15,192	16,442
24 Carnegie Mellon U	19,136	18,016	21,521	17,763	14,112	18,180	19,003	20,438
25 University of Rochester	17,653	14,147	11,605	12,810	10,261	7,868	9,085	6,814
26 U of Iowa	17,262	15,712	14,862	11,359	10,205	10,478	13,545	7,828
27 U of Alabama Birmingham	16,842	16,233	17,354	19,219	14,772	10,832	8,907	7,867
28 Baylor Col of Medicine	16,588	14,420	13,655	12,217	11,919	9,914	6,630	7,294
29 University of Arizona	16,392	14,964	13,106	15,300	15,053	13,469	12,292	12,091
30 U of Alaska Fairbanks	16,081	12,769	9,965	5,470	4,441	4,751	3,275	1,547
Total, 1st 30 institutions	899,549	793,387	710,603	612,053	560,176	539,108	497,155	455,699
31 Yale University	15,829	16,629	15,322	13,623	11,145	9,994	9,442	8,700
32 U CA Irvine	15,712	10,445	10,391	9,139	6,243	4,898	3,825	4,163
33 Wake Forest University	15,546	16,246	12,697	11,144	9,064	8,333	6,392	5,927
34 Johns Hopkins U	14,761	13,917	12,388	10,652	10,418	12,564	13,296	14,953
35 U WI Madison	14,371	14,832	13,871	12,948	13,729	12,392	12,912	12,624
36 U CA Davis	14,077	9,362	9,387	8,053	7,423	6,852	6,125	6,599
37 U TX SW Med Ctr Dallas	13,926	12,737	13,801	14,986	13,092	11,173	10,874	9,330
38 U of Illinois Urbana	13,917	11,761	12,365	11,832	13,527	16,095	20,070	24,434
39 Iowa State University	13,717	8,499	7,407	8,017	8,185	7,402	8,011	6,537
40 University of Kentucky	13,668	11,259	13,374	12,011	11,790	9,924	9,253	7,476
Total, 1st 40 institutions	1,045,073	919,074	831,606	724,458	664,792	638,735	597,355	556,442
41 University of Miami	13,338	12,200	12,321	11,831	11,140	10,828	8,566	6,593
42 Northwestern University	13,292	10,498	9,378	7,257	9,203	8,784	6,978	6,960
43 U of Tennessee System	12,551	12,675	11,759	11,077	10,699	11,722	8,479	8,857
44 University of Virginia	12,400	7,627	4,552	15,442	14,826	10,389	8,296	8,153
45 Louisiana St U, All Camp	12,157	13,331	11,298	10,432	9,037	9,203	9,657	8,616
46 VA Polytech Inst & St U	12,132	11,385	11,365	11,500	12,580	13,224	14,333	12,443
47 Cornell University	11,253	8,215	14,915	17,752	17,199	15,789	13,879	16,761
48 Wayne State University	11,207	10,959	8,977	7,973	7,988	7,738	7,486	7,295
49 UT-Houston Hlth Sci Ctr	11,106	9,780	7,403	6,212	6,313	6,907	5,144	6,392
50 Rensselaer Polytech Inst	10,974	9,340	6,210	6,135	5,925	10,813	12,161	12,236
Total, 1st 50 institutions	1,165,483	1,025,084	929,784	830,069	769,702	744,132	692,334	650,748

See explanatory information and SOURCE at end of table.

**Table B-38. Industry-sponsored R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

Page 2 of 5

Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
51 Univ of Hawaii Manoa	10,949	5,944	8,088	299	434	151	337	856
52 U TX Hlth Sci Ctr San Ant	10,845	9,051	9,021	8,922	7,300	6,746	5,268	6,876
53 Tulane University	10,734	12,913	11,276	10,115	10,018	6,618	7,462	6,758
54 University of Georgia	10,534	10,283	9,861	10,595	8,773	8,803	6,679	5,821
55 University of Pittsburgh	10,436	9,753	7,880	8,208	7,561	9,804	7,873	7,110
56 Harvard University	10,361	11,588	12,522	8,395 <i>i</i>	10,228	9,319 <i>e</i>	11,647 <i>e</i>	11,957
57 Thomas Jefferson U	10,155	9,851	9,553	8,105	7,455	6,138	5,029	9,966
58 University of Utah	10,007	10,374	3,825	4,319	4,087	4,357	4,124	2,908
59 University of Colorado	9,963	9,403	8,902	7,607	13,312	12,218	10,655	8,251
60 University of Connecticut	9,905	8,572	8,026	6,640	7,651	8,357	5,831	7,421
Total, 1st 60 institutions	1,269,372	1,122,816	1,018,738	903,274	846,521	816,643	757,239	718,672
61 Colorado School of Mines	9,877	8,038	8,114	6,601 <i>i</i>	5,087	5,770	5,542	4,847
62 Boston University	9,461	8,916	8,726	8,804	8,695	9,982	8,437	6,405
63 University of IL Chicago	9,424	6,947	6,746	6,174	5,061	4,570	3,539	4,844
64 Georgetown University	9,383	8,421	6,737	6,148	6,773	5,914	4,947	4,549
65 Rutgers the State U NJ	9,038	8,848	7,079	7,797	7,796	7,734	7,889	7,769
66 Rush University	8,911	7,232	5,872	4,970	4,993	5,036	3,218	4,092
67 Temple University	8,855	4,690	5,173	5,458	6,011	6,011	4,155	3,452
68 U Med & Dent NJ	8,841	8,519	7,741	8,164	8,984	7,431	5,337	3,471
69 Virginia Commonwealth U	8,478	9,172	7,435	6,074	7,089	6,591	6,285	6,201
70 New York University	8,391	8,502	10,461	6,461	5,929	4,917	4,588	5,947
Total, 1st 70 institutions	1,360,031	1,202,101	1,092,822	969,925	912,939	880,599	811,176	770,249
71 University of Kansas	8,281	8,201	9,356	8,149	4,320	4,037	4,877	4,228
72 Oregon Health Sciences U	7,680 <i>i</i>	7,036	4,597	4,685	945	992	1,043	1,099
73 Emory University	7,670	6,700	6,383	11,473	8,966	8,145	7,465	6,920
74 University of Oklahoma	7,661	6,871	6,650	5,630	4,887	3,918	4,319	3,530
75 Mt Sinai Sch Med	7,588	6,994	3,288	5,571	5,934	5,549	4,642	3,978
76 George Washington U	7,575	7,865	5,704	4,314	2,676	2,168	1,181	1,248
77 Mississippi State U	7,470	5,469	7,599	6,165	5,913	6,012	6,920	7,163
78 Eastern VA Med School	7,448	5,762	5,039	5,975	4,064	544	0	0
79 Montana St U Bozeman	7,378 <i>i</i>	6,976	5,489	5,143	3,139	2,910	2,983	4,043
80 Michigan State University	7,250	6,973	6,818	7,853	6,271	6,442	6,304	4,693
Total, 1st 80 institutions	1,436,032	1,270,948	1,153,745	1,034,883	960,054	921,316	850,910	807,151
81 U of Maine	7,074	5,609	4,214	4,158	4,406	4,117	3,545	4,719
82 Case Western Reserve U	6,984	5,662	5,784	5,427	5,708	6,480	6,851	4,667
83 SUNY Stony Brook	6,908	7,119	5,848	5,850	5,012	4,670	2,890	2,783
84 Allegheny U of Hlth Sci	6,835	8,525	5,060	4,675	5,556	4,638	3,290	2,741
85 Clemson University	6,641	5,253	5,887	5,469	5,410	6,035	7,174	6,163
86 University of Idaho	6,496	6,551 <i>i</i>	6,478	5,977	7,495	5,608	4,064	4,447
87 Creighton University	6,475	5,094	4,517	3,885	3,467	3,116	2,654	3,357 <i>e</i>
88 NM Inst Mining & Tech	6,385	4,723	6,895	5,165	6,057	9,803	9,616	9,907 <i>i</i>
89 Indiana University	6,333	4,242	5,357	5,815	5,689	4,850	3,569	2,367
90 University of Dayton	6,285	5,541	6,160	5,834	5,313	4,813	4,307	4,359
Total, 1st 90 institutions	1,502,448	1,329,267	1,209,945	1,087,138	1,014,167	975,446	898,870	852,661
91 U MA Amherst	6,236	5,778	5,738	4,760	4,868	5,288	5,466	--
92 Colorado State University	6,155	5,712	6,320	5,736	11,793	5,369	5,074	3,380
93 Lehigh University	6,074	6,790	6,832	6,767	7,303	8,088	7,467	8,133
94 U of Alabama Huntsville	5,883	5,110	4,752	3,390	2,948	2,857	1,963	1,847
95 Tufts University	5,560	5,344	4,970	4,687 <i>e</i>	5,131	4,647 <i>e</i>	3,451 <i>e</i>	7,740 <i>e</i>
96 Texas Tech University	5,549	5,650	5,634	5,441	5,474	5,284	4,815	4,428
97 University of Vermont	5,513	5,399	5,231	5,467	4,878	4,573	4,337	4,181
98 U of NE Med Ctr Omaha	5,471	3,941	4,286	3,903	3,639	3,488	2,163	1,682
99 U of South Florida	5,397	3,747	3,282	4,782	6,338	5,041	5,127	6,091
100 U TX Med Br Galveston	5,319	7,301	6,008	5,991	6,115	4,831	3,978	2,652
Total, 1st 100 institutions	1,559,605	1,384,039	1,262,998	1,138,062	1,072,654	1,024,912	942,711	892,795

See explanatory information and SOURCE at end of table.

**Table B-38. Industry-sponsored R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
101 Princeton University	5,242	4,441	4,483	6,335	8,089	5,829	4,322	4,595
102 U Arkansas Main	5,145	4,130	4,474	4,809	5,605	4,964	4,051	3,323
103 U MA Lowell	5,099	4,920	5,779	3,599	3,695	3,691	3,770	3,599
104 U of NC Chapel Hill	4,860	3,311	2,592	2,403	2,379	2,539	3,298	3,677
105 University of Louisville	4,800	3,522	6,312	4,616	4,180	3,651	3,547	3,093
106 U of Nebraska Lincoln	4,721e	4,651	3,465	3,145	3,558	2,287	3,712	2,806
107 Indiana State University	4,611	556	477	388	250	233	0	105
108 Arizona State University	4,609	3,376	2,758	7,169	5,780	4,772	5,790	6,860
109 West Virginia University	4,547	3,719	3,608	3,160	4,058	3,973	5,585	11,163
110 Auburn University	4,452	4,644	4,212	3,243	3,055	6,059	6,807	6,450
Total, 1st 110 institutions	1,607,691	1,421,309	1,301,158	1,176,929	1,113,303	1,062,910	983,593	938,466
111 U of Missouri Columbia	4,348	3,777	3,158	10,114	10,299	7,907	7,612	9,537
112 San Jose State University	4,324e	4,324i	4,324i	4,324i	4,324i	4,324	5,498	588
113 Drexel University	4,057	5,086	4,343	5,845	5,764	4,233	3,429	2,873
114 Vanderbilt University	4,036	2,583	3,097	3,124	3,033	2,523	3,794	1,941
115 U of Central Florida	4,019	3,081	1,207	2,272	2,272	5,810	3,947	4,287
116 Florida Atlantic U	3,981	1,922	1,776	1,777	1,909	2,504	1,943	1,736
117 University of Delaware	3,859	3,361	2,964	3,681	4,117	4,857	5,075	4,732
118 Michigan Tech University	3,747	3,819	3,636	2,840	2,885	3,127	2,946	4,150
119 U CA Santa Barbara	3,666	2,876	2,988	2,576	2,711	2,487	2,447	2,379
120 U of New Hampshire	3,635	1,600	1,315	1,723	1,476	1,467	1,813	1,278
Total, 1st 120 institutions	1,647,363	1,453,738	1,329,966	1,215,205	1,152,093	1,102,149	1,022,097	971,967
121 Northeastern University	3,530	2,827	2,072	2,334	2,002	1,445	1,444	1,976i
122 Kansas State University	3,445	2,943	2,243	2,701	3,111	2,889	2,586	2,389
123 University of New Mexico	3,331	2,799	2,389	3,087	4,038	5,474	8,886	4,684
124 Loma Linda University	3,192	3,291	3,273	2,499	2,514	2,228	2,750	2,508
125 Washington State U	3,158	3,138	3,149	2,537	3,151	2,726	2,459	2,074
126 University of Wyoming	3,114	2,226	2,086	1,930	1,185	2,268	2,841	2,000
127 Medical Col of Georgia	3,072	2,578	2,995	3,484	3,575	2,777	2,090	1,731
128 SUNY Hlth Sci Ctr Brklyn	3,045	4,385	4,808i	5,232	4,306	4,421	3,256	732
129 U Arkansas Medical Sci	3,040	3,440	3,733	2,884	2,158	1,803	1,330	1,191
130 Loyola U of Chicago	3,024	3,211	4,271	3,461i	3,795	3,614	3,442	1,545
Total, 1st 130 institutions	1,679,314	1,484,576	1,360,985	1,245,354	1,181,928	1,131,794	1,053,181	992,797
131 SUNY Buffalo	3,021	14,480	13,186	13,390	8,143	5,584	7,831	3,086
132 Columbia University	3,018	1,637	2,559	1,478	1,632	5,919	6,454	6,619
133 Oklahoma State University	2,887	3,252	2,334	2,902	3,381	3,531	3,132	2,473
134 U MD Baltimore County	2,858	2,484	1,803	1,231	537	1,349	1,363	1,043e
135 New Mexico State Univ	2,843	2,393	2,556	2,444	3,516	3,466	3,958	4,939
136 University of Tulsa	2,772	3,913	2,820	2,921	2,652	2,761	2,649	2,548
137 University of Akron	2,767	3,411	3,313	3,542	3,822	4,922	4,697	3,813
138 Stevens Inst of Tech	2,748	2,777	2,087	1,685	1,884	1,659	6,237	1,635
139 Utah State University	2,744	3,356	4,614	3,322	2,265	3,268	5,167	2,155
140 Northern Illinois U	2,743	2,770	2,222	2,127	988	1,317	1,458	1,629
Total, 1st 140 institutions	1,707,715	1,525,049	1,398,479	1,280,396	1,210,748	1,165,570	1,096,127	1,022,737
141 Med U of South Carolina	2,737	1,371	1,134	6,026	5,534	1,793	2,868	2,115
142 Saint Louis University	2,733	2,618	2,483	2,087	1,545	1,054	523	1,058
143 SUNY Binghamton	2,726	1,516	1,799	2,074	1,502	1,312	1,505	1,761
144 U PR Mayaguez	2,701	2,307	2,275	1,852	1,241	382	1,008	650i
145 Institute of Textile Tech	2,650	2,792	2,742	2,586	2,239	2,284	2,143	2,045
146 U TX Arlington	2,642	2,641	3,245	3,205	3,275	3,363	2,351	2,884
147 The Rockefeller Univ	2,641	2,577	2,800	2,660	4,031	4,907	4,623	4,816
148 U MA Worcester	2,631	2,129	1,146	2,492	3,776	3,721	3,485	--
149 Dartmouth College	2,574	3,280	2,571	2,196	2,833	3,375	2,638	2,719
150 U PR Med Sci Campus	2,548	311	0	0	0	0	0	0
Total, 1st 150 institutions	1,734,298	1,546,591	1,418,674	1,305,574	1,236,724	1,187,761	1,117,271	1,040,785

See explanatory information and SOURCE at end of table.

**Table B-38. Industry-sponsored R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
151 Tennessee Tech U	2,492	1,252	1,367	1,488	1,235	1,288	1,097	871
152 Illinois Inst of Tech	2,469	3,524	4,000	1,634	1,254	1,031	1,145	1,660
153 New York Medical College	2,461	1,810	1,532	1,792	1,807	1,480	1,429	1,981
154 U of Nevada Las Vegas	2,461	2,058	1,443	1,828	1,582	919	610	377
155 Univ of North Dakota	2,357	2,166	2,971	1,814	728	982	863	853
156 Sthrn IL U Carbondale	2,306	1,954	2,033	2,325	2,347	2,033	2,004	2,190
157 U MD College Park	2,127	5,009	24,044	25,431	18,433	19,271	15,757	11,938
158 Polytechnic University	2,093	3,074	2,857	1,566	2,589	1,420e	1,972	1,972
159 U of South Carolina	2,022	2,058	3,657	7,869	8,046	6,414	9,019	7,625
160 University of Notre Dame	2,020	1,979	3,511	2,665	3,710	4,024	4,658	4,952
Total, 1st 160 institutions	1,757,106	1,571,475	1,466,089	1,353,986	1,278,455	1,226,623	1,155,825	1,075,204
161 California Inst of Tech	2,001	3,789	4,447	5,105	4,947	3,835	3,280	2,764
162 U CA Riverside	2,001	1,747	1,702	1,109	1,103	1,208	857	1,361
163 East Carolina University	1,996	1,476	1,441	1,624	1,952	2,109	1,470	1,498
164 Inst Paper Sci and Tech	1,976e	1,976e	1,606 i	1,235	1,971	1,726	624	435
165 Old Dominion University	1,974	2,357	2,233	1,771	1,061	1,151	1,011	979
166 Ohio University	1,948	2,132	2,322	2,526	2,690	2,201	1,779	839
167 Alfred University	1,946	1,633	1,755	1,967	2,012	1,897	1,988	1,720
168 U Mississippi, All Camp	1,887	1,817	1,920	1,621	1,998	2,727	1,742	1,366
169 Florida Inst of Tech	1,822	1,040	2,354	1,999 i	947	1,884	1,575	1,942
170 U of South Alabama	1,779	2,353	1,981	1,392	2,063	1,562	1,703	1,788
Total, 1st 170 institutions	1,776,436	1,591,795	1,487,850	1,374,335	1,299,199	1,246,923	1,171,854	1,089,896
171 SUNY Col Env Sci Frstry	1,768	1,831	1,500	1,772 i	2,044	2,010	1,793	1,707
172 Mercer University	1,718	1,292	1,651	823	849	399	644	1,424
173 University of Houston	1,707	1,815	1,341	1,600	1,183	1,339	1,595	1,608
174 Medical Col of Wisconsin	1,692	2,757	3,019	2,222	4,164	5,053	4,684	4,175
175 University of Chicago	1,684	1,634	1,306	1,679	1,324	1,958	1,399	1,425
176 Marquette University	1,641	1,112	1,158	1,187	1,041	801	463	1,417
177 Brown University	1,603	1,506	1,716	1,057	1,467	1,825	1,882	2,497
178 Western Michigan U	1,600	1,460	1,403	1,077	1,168	994	947	843
179 Howard University	1,519	1,059	1,057	2,342	1,741	434	364	312
180 Clarkson University	1,500	1,512	1,779	1,698	1,658	1,455	2,315	2,051
Total, 1st 180 institutions	1,792,868	1,607,773	1,503,780	1,389,792	1,315,838	1,263,191	1,187,940	1,107,355
181 Desert Research Institute	1,500	1,600	5,200	3,357	3,798	3,293	4,466	3,670
182 Worcester Polytech Inst	1,485	1,185	619	627	768	957	1,603	1,595
183 Milwaukee School of Eng	1,463	1,296 i	1,159 i	1,021 i	884 i	746	654	478
184 Rochester Inst of Tech	1,462e	1,395	1,246	1,122	1,420	1,504	1,574 i	1,271 i
185 U CA Santa Cruz	1,458	1,253	1,032	988	893	458	483	560
186 North Dakota State U	1,449	1,273	1,534	1,532	1,261	1,191	1,193	1,455
187 Rice University	1,435	1,779	1,898	2,726	3,837	4,550	4,147	3,600
188 SUNY Albany	1,426	1,533	1,904	1,709	1,756	1,240	1,080	876
189 Syracuse University	1,418	1,910 i	2,550	2,321	4,522	2,166	5,195	4,405
190 U of Nevada Reno	1,394	1,806	1,399	1,756	1,674	1,033	916	1,276
Total, 1st 190 institutions	1,807,358	1,622,803	1,522,321	1,406,951	1,336,651	1,280,329	1,209,251	1,126,541

See explanatory information and SOURCE at end of table.

**Table B-38. Industry-sponsored R&D expenditures at universities and colleges:
fiscal years 1991-1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1994	1993	1992	1991
191 U of Missouri Rolla	1,361	1,575	2,364	1,316	1,122	1,717	2,147	1,564
192 U of Detroit Mercy	1,331	1,375	1,590	1,714	1,148	1,252	1,363	1,091
193 Cleveland State U	1,330e	1,291 i	1,184 i	1,246	701	593	605	753
194 Wright State University	1,325	1,409	1,250	1,641	1,429	539	391	562
195 U of NC at Charlotte	1,317	1,214 i	1,234 i	1,255 i	1,274 i	1,294	1,049	815
196 Oregon Grad Inst Sci Tech ...	1,316e	1,253	2,757	3,042	2,973	2,638	2,244	1,673
197 The University of Alabama	1,301	1,345	1,407	1,920	2,332	2,419	2,240	2,396
198 NJ Inst of Technology	1,258	1,600	2,313	1,879	3,288	3,459	2,173	2,018
199 Florida State University	1,159	1,148	1,565	2,166	1,893	1,377	598	1,408
200 C R Drew U of Med & Sci	1,153e	1,153e	1,098	300	1,673	369	141	129
Total, 1st 200 institutions	1,820,209	1,636,166	1,539,083	1,423,430	1,354,484	1,295,986	1,222,202	1,138,950
Total, all other sampled insts	49,834	63,702	56,889	57,254	60,544	64,371	56,750	64,937

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-39. R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 1 of 5

Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
Total, all institutions	25,735,268	4,053,742	2,439,559	1,615,099	1,062,314	14,547,045	436,905	1,121,024	459,580
1 Johns Hopkins U	853,620	216,973	131,662	43,528	102,284	332,458	3,484	3,688	19,543
2 University of Michigan	496,761	109,219	23,072	24,737	8,422	270,466	10,712	48,299	1,834
3 U CA Los Angeles	447,367	42,967	36,402	8,060	10,989	313,422	7,374	25,580	2,573
4 U WI Madison	443,695	56,512	38,814	24,864	10,661	265,262	17,973	28,827	782
5 U of Washington	432,383	34,277	22,595	61,755	8,923	288,925	9,911	5,997	0
6 U CA Berkeley	420,435	99,697	76,164	5,755	5,784	174,403	7,449	35,559	15,624
7 U CA San Diego	418,790	46,172	37,948	100,882	20,387	199,279	3,552	9,302	1,268
8 MA Institute of Tech	413,098	178,664	100,899	15,900	17,059	42,744	0	11,627	46,205
9 Stanford University	410,309	116,364	58,555	8,025	22,439	195,377	3,834	5,715	0
10 Texas A&M University	393,720	108,306	20,765	69,912	7,076	159,093	2,236	19,593	6,739
Total, 1st 10 institutions	4,730,178	1,009,151	546,876	363,418	214,024	2,241,429	66,525	194,187	94,568
11 U CA San Francisco	379,970	0	0	0	0	379,970	0	0	0
12 Cornell University	363,511	44,687	60,854	4,101	21,757	215,404	5,642	11,066	0
13 Pennsylvania State U	362,643	142,907	25,966	23,552	4,006	99,746	8,864	44,048	13,554
14 University of Minnesota	360,323	37,595	17,404	10,824	12,250	261,207	6,930	14,113	0
15 U of Illinois Urbana	338,841	90,994	29,100	25,602	68,802	82,599	6,114	18,833	16,797
16 U of Pennsylvania	333,477	12,785	24,546	474	8,954	266,318	3,111	17,289	0
17 University of Colorado	311,203	28,935	45,369	74,325	8,593	142,135	7,348	3,375	1,123
18 Harvard University	306,100	6,433	27,527	13,271	2,739	195,472	3,854	39,501	17,303
19 University of Arizona	302,328	42,394	71,248	10,067	9,414	153,625	2,205	13,208	167
20 Ohio State University	301,518	70,275	19,733	9,481	15,131	163,913	3,830	18,786	369
Total, 1st 20 institutions	8,090,092	1,486,156	868,623	535,115	365,670	4,201,818	114,423	374,406	143,881
21 U CA Davis	288,796	27,726	13,053	6,547	3,558	232,976	1,558	3,276	102
22 Duke University	282,388	13,710	15,187	7,554	2,662	227,796	4,472	11,007	0
23 University of Florida	274,862	48,621	21,774	6,709	8,254	177,226	3,472	8,682	124
24 Washington University	269,550	9,391	8,942	3,420	9,227	234,810	964	2,545	251
25 U of Southern California	268,806	38,686	11,068	14,202	51,936	141,502	3,483	6,404	1,525
26 Columbia University	267,007	14,901	24,154	43,154	5,027	170,957	2,932	5,882	0
27 Yale University	262,680	7,913	17,397	2,138	4,437	225,403	3,089	2,303	0
28 Georgia Institute of Tech	259,233	165,472	21,968	14,505	33,732	15,886	2,920	2,595	2,155
29 NC State University	254,254	80,278	15,387	16,743	11,964	121,736	579	4,866	2,701
30 U TX Austin	244,843	81,547	83,029	19,477	22,602	25,821	3,072	7,195	2,100
Total, 1st 30 institutions	10,762,511	1,974,401	1,100,582	669,564	519,069	5,775,931	140,964	429,161	152,839
31 U of NC Chapel Hill	235,296	0	11,750	10,127	9,179	176,442	3,149	24,649	0
32 U of Alabama Birmingham	227,720	8,345	2,449	15	308	211,039	5,403	161	0
33 Northwestern University	223,235	42,636	15,888	579	4,209	133,916	1,962	5,993	18,052
34 U MD College Park	223,190	67,267	50,105	8,331	20,641	33,772	1,530	41,544	0
35 University of Georgia	217,945	7,232	10,061	11,229	6,891	148,995	6,025	27,512	0
36 Baylor Col of Medicine	216,528	0	0	0	0	216,528	0	0	0
37 Purdue University	216,479	68,096	22,130	3,614	8,687	96,025	2,497	15,046	384
38 University of Pittsburgh	213,842	7,532	10,108	583	3,009	182,827	4,293	4,142	1,348
39 Louisiana St U, All Camp	208,928	35,605	13,540	22,684	2,927	124,209	729	8,223	1,011
40 U of Iowa	199,063	21,888	15,049	1,680	1,149	148,007	2,689	7,851	750
Total, 1st 40 institutions	12,944,737	2,233,002	1,251,662	728,406	576,069	7,247,691	169,241	564,282	174,384
41 Rutgers the State U NJ	197,053	25,908	20,261	14,668	16,952	91,706	7,153	17,698	2,707
42 Michigan State University	193,611	17,837	30,143	1,233	3,560	120,904	2,205	15,681	2,048
43 California Inst of Tech	185,066	35,630	86,036	18,285	11,357	32,425	0	1,333	0
44 Case Western Reserve U	176,330	28,340	8,183	293	227	133,979	600	4,708	0
45 University of Rochester	174,617	38,158	13,815	639	2,829	111,899	6,649	624	4
46 Emory University	172,884	0	5,989	0	908	163,709	1,383	895	0
47 Indiana University	171,754	3,628	21,275	1,762	4,117	110,220	7,210	15,629	7,913
48 VA Polytech Inst & St U	167,118	48,844	9,015	29,232	5,288	66,495	2,971	5,273	0
49 University of Kentucky	161,346	25,174	5,386	215	1,248	117,731	961	3,371	7,260
50 University of Cincinnati	159,695	21,569	4,356	86	264	129,578	482	2,397	963
Total, 1st 50 institutions	14,704,211	2,478,090	1,456,121	794,819	622,819	8,326,337	198,855	631,891	195,279

See explanatory information and SOURCE at end of table.

**Table B-39. R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
51 Iowa State University	156,766	40,370	9,599	1,737	10,900	75,816	584	12,943	4,817
52 New York University	156,452	0	6,919	905	12,134	124,351	5,455	5,798	890
53 U TX SW Med Ctr Dallas	153,711	0	0	0	0	153,711	0	0	0
54 University of IL Chicago	151,739	12,979	8,597	1,735	2,735	110,518	3,445	5,080	6,650
55 SUNY Buffalo	151,650	27,690	10,913	1,383	7,087	93,114	5,590	5,710	163
56 University of Chicago	151,635	0	29,352	7,742	2,177	103,348	1,887	6,949	180
57 U of Tennessee System	150,694	27,827	11,586	11,609	7,690	85,380	56	4,720	1,826
58 Univ of Hawaii Manoa	148,007	5,215	26,192	48,594	370	57,016	1,070	4,002	5,548
59 U of MD Baltimore	143,321	0	0	0	0	143,321	0	0	0
60 University of Utah	142,956	19,174	11,105	4,057	12,471	94,383	1,043	723	0
Total, 1st 60 institutions	16,211,142	2,611,345	1,570,384	872,581	678,383	9,367,295	217,985	677,816	215,353
61 SUNY Stony Brook	141,766	10,083	23,978	16,566	7,916	77,768	2,705	2,320	430
62 U TX MD Anderson Cnrc	141,260	0	3,445	0	2,715	135,100	0	0	0
63 Colorado State University	140,179	17,998	10,450	14,656	3,283	77,765	3,916	2,143	9,968
64 Wayne State University	138,456	10,633	10,777	2	1,018	104,460	2,980	6,373	2,213
65 Oregon State University	138,240	14,178	6,243	30,233	2,364	83,238	43	1,893	48
66 Carnegie Mellon U	137,450	34,363	8,485	2,008	62,466	13,594	6,382	8,416	1,736
67 University of Miami	136,972	1,815	2,132	31,067	331	92,385	5,276	3,934	32
68 U of Missouri Columbia	136,061	16,606	4,191	994	1,408	98,662	3,474	10,719	7
69 Vanderbilt University	135,214	7,529	10,725	271	765	109,534	2,011	4,379	0
70 University of Connecticut	134,448	24,166	4,253	9,224	1,515	79,719	5,189	7,772	2,610
Total, 1st 70 institutions	17,591,188	2,748,716	1,655,063	977,602	762,164	10,239,520	249,961	725,765	232,397
71 University of Virginia	133,049	22,311	11,708	4,783	6,210	82,853	3,124	1,741	319
72 U CA Irvine	130,415	11,658	17,542	2,249	4,730	86,093	2,658	4,457	1,028
73 Boston University	130,054	14,969	12,897	3,473	3,782	83,544	2,271	1,110	8,008
74 University of Oklahoma	126,861	14,008	12,401	23,374	2,925	56,247	7,845	10,061	0
75 University of New Mexico	125,910	27,243	10,518	1,811	3,106	40,612	3,950	5,446	33,224
76 U of Nebraska Lincoln	118,857e	20,029i	5,467i	11,863i	1,251i	74,011i	1,177i	5,041i	181
77 University of Kansas	117,115	13,751	10,356	9,463	1,240	66,492	1,010	3,776	11,027
78 Georgetown University	116,611	0	5,124	235	139	106,347	70	4,663	33
79 Princeton University	115,996	35,805	28,114	8,816	6,284	17,843	5,978	13,156	0
80 The Rockefeller Univ	115,494	0	6,768	0	2,234	106,492	0	0	0
Total, 1st 80 institutions	18,821,550	2,908,490	1,775,958	1,043,669	794,065	10,960,054	278,044	775,216	286,054
81 U Med & Dent NJ	114,491	0	0	0	0	114,491	0	0	0
82 Mt Sinai Sch Med	109,448	0	0	0	0	109,448	0	0	0
83 Oregon Health Sciences U	105,208i	0i	0i	0i	0i	100,300i	4,908i	0i	0i
84 U of South Florida	104,325	15,728	1,355	14,243	245	63,616	7,004	2,134	0
85 UT-Houston Hlth Sci Ctr	101,993	0	0	0	0	101,993	0	0	0
86 Mississippi State U	100,410	22,862	2,842	4,060	1,537	62,253	160	3,506	3,190
87 Yeshiva University	99,000	0	0	0	0	99,000	0	0	0
88 U CA Santa Barbara	96,034	34,977	18,068	16,853	9,204	7,602	1,420	7,451	459
89 Allegheny U of Hlth Sci	95,984	0	0	0	0	95,984	0	0	0
90 Washington State U	95,422	12,321	4,474	926	489	64,805	419	9,834	2,154
Total, 1st 90 institutions	19,843,865	2,994,378	1,802,697	1,079,751	805,540	11,779,546	291,955	798,141	291,857
91 Florida State University	94,463	3,170	50,612	15,775	3,825	10,423	4,027	6,097	534
92 Utah State University	94,228	33,933	3,720	11,134	1,301	32,316	956	3,315	7,553
93 U of South Carolina	92,785	17,116	11,655	13,496	9,948	18,180	3,231	7,679	11,480
94 Tufts University	92,130	5,935	4,037	73	783	73,437	2,168	5,697	0
95 Arizona State University	92,019	32,745	19,916	5,154	4,096	12,306	5,960	8,564	3,278
96 Clemson University	90,150	26,584	5,769	986	4,072	47,941	110	4,014	674
97 U MA Amherst	89,970	16,264	23,045	7,143	11,102	26,555	4,135	1,020	706
98 Tulane University	87,858	5,766	3,075	246	498	72,246	93	783	5,151
99 Auburn University	87,768	17,239	2,738	418	497	48,586	830	2,283	15,177
100 U TX Med Br Galveston	86,488	1,269	0	0	0	85,219	0	0	0
Total, 1st 100 institutions	20,751,724	3,154,399	1,927,264	1,134,176	841,662	12,206,755	313,465	837,593	336,410

See explanatory information and SOURCE at end of table.

**Table B-39. R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
101 U TX Hlth Sci Ctr San Ant	85,407	0	0	0	0	85,407	0	0	0
102 U MA Worcester	82,950	0	0	0	0	82,950	0	0	0
103 Kansas State University	81,233	12,972	7,348	266	1,081	54,268	943	3,006	1,349
104 Virginia Commonwealth U	80,538	314	3,392	98	1,467	70,968	2,864	1,435	0
105 U CA Riverside	79,775	8,473	6,516	9,394	771	49,242	2,364	2,122	893
106 New Mexico State Univ	77,370	46,187	3,938	5,053	4,527	16,330	413	798	124
107 Wake Forest University	76,893	0	669	0	185	75,987	0	0	52
108 U of Alaska Fairbanks	75,606	3,957 <i>i</i>	14,507 <i>i</i>	33,814 <i>i</i>	98 <i>i</i>	19,562 <i>i</i>	0 <i>i</i>	3,668 <i>i</i>	0 <i>i</i>
109 Woods Hole Oceanograph ...	75,011	12,016	0	62,995	0	0	0	0	0
110 George Washington U	74,481	9,708	1,082	114	13,787	26,872	867	7,303	14,748
Total, 1st 110 institutions	21,540,988	3,248,026	1,964,716	1,245,910	863,578	12,688,341	320,916	855,925	353,576
111 Brown University	73,977	9,568	8,005	5,372	12,648	30,976	2,514	4,894	0
112 U Arkansas Main	71,686	11,576	4,983	2,632	1,489	46,523	457	3,829	197
113 Oklahoma State University ...	71,466	12,899	5,432	844	2,533	38,293	460	5,205	5,800
114 University of Delaware	69,896	23,408	9,466	8,180	5,474	17,180	1,439	4,749	0
115 Thomas Jefferson U	69,460	0	0	0	0	69,460	0	0	0
116 Dartmouth College	64,964	7,133	3,532	630	1,394	49,978	1,132	657	508
117 Temple University	63,024	807	1,611	99	579	46,219	5,829	7,359	521
118 West Virginia University	62,362	18,923	2,929	2,348	948	34,199	471	1,607	937
119 University of Idaho	58,967	8,878	1,831	5,112	354	41,187	676	929	0
120 University of Vermont	57,832	1,294	778	563	755	51,015	498	36	2,893
Total, 1st 120 institutions	22,204,622	3,342,512	2,003,283	1,271,690	889,752	13,113,371	334,392	885,190	364,432
121 U CA Santa Cruz	56,533	2,623	22,681	11,390	2,050	8,759	1,239	7,618	173
122 Medical Col of Wisconsin	56,021	0	0	0	0	56,021	0	0	0
123 Med U of South Carolina	55,937	0	0	0	0	55,937	0	0	0
124 Rush University	55,277	0	0	0	0	52,378	2,899	0	0
125 Texas Tech University	53,126	16,221	5,435	1,046	1,947	22,446	75	4,621	1,335
126 U of New Hampshire	52,359	5,520	1,837	25,772	833	11,906	1,819	4,381	291
127 Montana St U Bozeman	52,292	7,192	6,682	800	607	32,362	0	2,286	2,363
128 U PR Mayaguez	51,181	6,188	2,202	4,601	380	37,691	51	68	0
129 SUNY Albany	50,568	0	6,201	6,152	696	28,221	2,416	6,882	0
130 U of NE Med Ctr Omaha	50,453	0	0	0	0	50,453	0	0	0
Total, 1st 130 institutions	22,738,369	3,380,256	2,048,321	1,321,451	896,265	13,469,545	342,891	911,046	368,594
131 University of Wyoming	48,500	6,006	5,082	10,387	706	19,657	359	648	5,655
132 U of Nevada Reno	45,476	3,992	2,598	4,476	131	21,761	1,147	2,149	9,222
133 University of Dayton	45,000	41,418	2,524	103	448	281	20	25	181
134 Brandeis University	44,589	0	4,248	0	1,225	20,304	1,483	17,329	0
135 University of Houston	42,297	19,097	7,770	990	3,234	6,868	3,002	1,333	3
136 San Diego St University	41,915	4,117	2,507	2,270	998	19,023	4,650	3,736	4,614
137 Rice University	41,067	6,800	9,187	7,585	12,667	4,440	235	153	0
138 NJ Inst of Technology	40,982	19,714	3,127	8,532	2,914	0	0	169	6,526
139 North Dakota State U	40,007	922	4,516	67	592	32,362	435	1,113	0
140 Medical Col of Georgia	39,806	0	0	0	0	39,806	0	0	0
Total, 1st 140 institutions	23,168,008	3,482,322	2,089,880	1,355,861	919,180	13,634,047	354,222	937,701	394,795
141 U Arkansas Medical Sci	39,487	0	0	0	0	39,487	0	0	0
142 University of Louisville	39,147	3,304	1,929	88	214	31,008	251	2,353	0
143 Rensselaer Polytech Inst	38,560	23,963	6,779	1,363	3,330	2,751	0	217	157
144 U of Rhode Island	37,940	3,214	824	19,105	133	7,912	4,855	247	1,650
145 Tuskegee University	37,354	9,831	2,138	0	0	23,863	0	1,522	0
146 Syracuse University	37,322	8,927	5,975	1,120	11,181	4,479	1,798	2,613	1,229
147 U of Alabama Huntsville	36,946	14,387	6,447	5,177	7,008	997	15	106	2,809
148 U of Central Florida	35,530	6,383	9,795	8,353	670	854	339	4,641	4,495
149 Loyola U of Chicago	34,241	0	971	36	321	28,980	709	2,507	717
150 US Naval Postgrad School	34,095	9,078 <i>i</i>	2,170 <i>i</i>	8,218 <i>i</i>	6,978 <i>i</i>	0 <i>i</i>	0 <i>i</i>	4,647 <i>i</i>	3,004 <i>i</i>
Total, 1st 150 institutions	23,538,630	3,561,409	2,126,908	1,399,321	949,015	13,774,378	362,189	956,554	408,856

See explanatory information and SOURCE at end of table.

**Table B-39. R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
151 University of Oregon	33,315	1,932	7,325	2,782	3,311	14,451	2,036	1,478	0
152 U of Maine	33,106	4,999	1,941	10,269	193	14,276	318	1,110	0
153 U MD Biotechnology Inst	31,861	0	0	7,917	0	23,944	0	0	0
154 Georgia State University	31,153	0	5,036	402	947	8,139	7,412	8,868	349
155 Sthrn IL U Carbondale	30,490	5,484	1,420	761	793	16,616	565	1,735	3,116
156 Clark Atlanta University	29,637	5,120	5,427	8,187	4,460	5,445	0	998	0
157 University of Notre Dame	28,873	8,517	13,158	0	1,834	4,321	781	262	0
158 U Mississippi, All Camp	28,079	3,008	4,111	0	97	20,175	163	525	0
159 SUNY Hlth Sci Ctr Brklyn	27,517	0	0	0	0	27,517	0	0	0
160 Saint Louis University	26,943	11	0	713	2	26,000	25	17	175
Total, 1st 160 institutions	23,839,604	3,590,480	2,165,326	1,430,352	960,652	13,935,262	373,489	971,547	412,496
161 Michigan Tech University	26,522	16,959	1,827	1,563	305	5,324	0	200	344
162 Northeastern University	26,385	11,274	6,158	0	1,572	5,401	900	1,080	0
163 Lehigh University	26,115	20,354	3,357	1,279	264	625	165	71	0
164 Col of William & Mary	25,966	0	4,033	18,538	551	921	96	1,827	0
165 U of Southwestern LA	24,768	5,660	860	199	3,178	12,461	258	874	1,278
166 The University of Alabama ...	24,043	11,544	2,788	2,176	3,110	1,794	315	1,775	541
167 U MD Ctr for Environ Sci	24,038	0	0	24,038	0	0	0	0	0
168 Howard University	23,673	4,010	3,678	59	1,679	13,119	52	1,068	8
169 NM Inst Mining & Tech	22,791	15,526	2,012	4,868	176	133	76	0	0
170 George Mason University	22,543	5,964	3,869	59	1,685	2,700	1,954	6,312	0
Total, 1st 170 institutions	24,086,448	3,681,771	2,193,908	1,483,131	973,172	13,977,740	377,305	984,754	414,667
171 The University of Memphis ...	22,486	2,666	1,021	2,916	1,272	2,806	6,405	4,138	1,262
172 SUNY Col Env Sci Frstry	22,036	7,293 <i>i</i>	1,295 <i>i</i>	2,283 <i>i</i>	0 <i>i</i>	11,032 <i>i</i>	0 <i>i</i>	133 <i>i</i>	0 <i>i</i>
173 U of Missouri Rolla	21,740	15,086	4,068	1,221	919	444	2	0	0
174 Eastern VA Med School	21,672	0	0	0	0	21,672	0	0	0
175 Desert Research Institute	21,500	0	0	14,400	0	4,000	0	3,100	0
176 Ohio University	21,469	9,236	3,786	363	95	5,664	981	808	536
177 CUNY City College	21,147	7,961	8,273	165	950	3,515	134	149	0
178 Oregon Grad Inst Sci Tech ...	21,047e	3,990e	3,020e	4,964e	9,073e	0	0	0	0
179 San Jose State University	21,005e	5,770e	1,881e	9,427e	328e	598e	2,938e	63e	0e
180 U WI Milwaukee	20,807	3,349	4,054	3,325	834	2,569	561	5,075	1,040
Total, 1st 180 institutions	24,301,357	3,737,122	2,221,306	1,522,195	986,643	14,030,040	388,326	998,220	417,505
181 SUNY Binghamton	20,754	6,024	3,578	1,010	1,587	2,232	3,171	3,152	0
182 Colorado School of Mines	20,681	14,296	3,784	995	1,561	0	0	45	0
183 Unif Svcs U of Hlth Sci	20,309	0	0	0	0	20,309	0	0	0
184 Old Dominion University	20,150	7,933	2,218	5,380	1,772	2,005	311	531	0
185 The University of Montana	20,133	0	781	231	1,845	13,896	39	1,386	1,955
186 U PR Med Sci Campus	19,830	0	0	0	0	19,830	0	0	0
187 Wright State University	19,676	3,321	2,045	194	665	11,943	1,097	231	180
188 Drexel University	19,603	12,867	1,332	804	1,676	273	0	2,651	0
189 U MA Lowell	19,372	7,496	5,667	3,530	725	931	374	466	183
190 New York Medical College	19,159	0	0	0	0	19,159	0	0	0
Total, 1st 190 institutions	24,501,024	3,789,059	2,240,711	1,534,339	996,474	14,120,618	393,318	1,006,682	419,823

See explanatory information and SOURCE at end of table.

**Table B-39. R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
191 U TX Arlington	19,075	14,351	2,226	223	140	1,386	42	707	0
192 Florida A&M University	19,066	3,248	2,646	1,581	1,098	10,267	20	206	0
193 U MD Baltimore County	18,155	6,152	7,394	0	615	2,282	462	1,250	0
194 Florida International U	17,880	8,906	1,564	450	1,131	2,277	794	2,758	0
195 Boston College	17,774	0	4,410	658	8,017	2,161	417	2,111	0
196 C R Drew U of Med & Sci	17,205e	0e	0e	0e	0e	17,205e	0e	0e	0e
197 Univ of North Dakota	16,938	8,542	344	1,531	88	4,416	22	562	1,433
198 U of Nevada Las Vegas	16,912	933	5,308	6,331	424	2,462	1	1,122	331
199 University of Akron	16,326	5,915	8,380	116	427	894	136	458	0
200 Western Illinois U	15,882	2,700	3,296	1,957	3,049	2,755	301	1,824	0
Total, 1st 200 institutions	24,676,237	3,839,806	2,276,279	1,547,186	1,011,463	14,166,723	395,513	1,017,680	421,587
Total, all other sampled insts	1,059,031	213,936	163,280	67,913	50,851	380,322	41,392	103,344	37,993

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-40. Federally financed R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi-neering	Physical sciences	Envir-onmental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
Total, all institutions	15,076,571	2,349,263	1,735,241	1,068,136	730,285	8,299,959	297,029	418,339	178,319
1 Johns Hopkins U	752,983	212,747	129,077	42,063	101,611	259,454	3,371	1,924	2,736
2 Stanford University	342,426	102,752	54,226	5,920	20,074	155,050	3,418	986	0
3 U of Washington	336,748	21,927	16,608	58,248	7,818	222,448	8,925	774	0
4 University of Michigan	311,450	68,083	17,171	18,623	3,682	171,935	5,412	26,179	365
5 MA Institute of Tech	310,741	127,064	88,749	14,147	13,669	33,826	0	5,922	27,364
6 U CA San Diego	262,303	27,155	28,329	60,215	12,200	127,194	2,448	4,723	39
7 Harvard University	251,876	5,816	26,770	12,839	2,608	163,991	3,422	21,225	15,205
8 U of Pennsylvania	247,914	10,123	23,326	106	6,636	198,815	2,937	5,971	0
9 U WI Madison	240,513	34,042	28,330	17,243	7,669	126,814	14,027	12,377	11
10 U CA Los Angeles	233,702	27,871	24,225	5,573	8,627	159,506	5,106	2,784	10
Total, 1st 10 institutions	3,290,656	637,580	436,811	234,977	184,594	1,619,033	49,066	82,865	45,730
11 Columbia University	229,723	11,438	21,098	40,462	4,682	144,577	2,818	4,648	0
12 University of Colorado	228,342	16,824	30,826	62,358	6,268	104,521	4,099	2,403	1,043
13 U CA San Francisco	219,912	0	0	0	0	219,912	0	0	0
14 Yale University	205,046	6,240	15,267	1,840	3,987	174,414	2,401	897	0
15 University of Minnesota	204,741	24,122	14,874	4,587	8,744	144,826	5,471	2,117	0
16 Cornell University	204,187	28,416	42,519	2,170	15,742	110,388	2,103	2,849	0
17 U of Southern California	190,547	30,530	8,799	10,277	42,507	91,664	3,140	3,042	588
18 Washington University	187,173	6,515	6,770	2,594	6,431	161,884	887	2,092	0
19 Pennsylvania State U	186,274	85,368	14,039	12,290	2,280	52,397	5,676	11,806	2,418
20 California Inst of Tech	177,748	31,536	85,615	16,912	11,233	31,416	0	1,036	0
Total, 1st 20 institutions	5,324,349	878,569	676,618	388,467	286,468	2,855,032	75,661	113,755	49,779
21 Duke University	172,532	10,155	12,906	3,235	1,920	132,886	4,031	7,399	0
22 U of NC Chapel Hill	171,505	0	8,181	6,048	6,109	131,183	2,979	17,005	0
23 U CA Berkeley	171,135	47,896	41,614	2,496	3,859	65,569	4,367	4,141	1,193
24 U of Illinois Urbana	168,871	54,008	19,073	6,480	41,678	31,419	3,745	3,133	9,335
25 University of Pittsburgh	168,511	3,656	8,348	516	2,646	145,487	4,037	2,637	1,184
26 U of Alabama Birmingham	166,830	5,307	1,368	0	219	154,908	4,989	39	0
27 U TX Austin	165,082	46,499	73,686	6,537	15,417	18,220	2,584	2,088	51
28 University of Arizona	161,999	24,232	43,855	5,990	6,691	75,275	874	4,955	127
29 Texas A&M University	144,938	27,986	11,139	52,659	2,933	43,610	1,402	4,833	376
30 Case Western Reserve U	132,274	18,166	5,044	268	154	106,938	529	1,175	0
Total, 1st 30 institutions	6,948,026	1,116,474	901,832	472,696	368,094	3,760,527	105,198	161,160	62,045
31 University of Rochester	130,773	34,243	12,645	569	2,719	76,928	3,323	346	0
32 U MD College Park	129,198	38,734	31,953	6,704	12,778	11,181	1,156	26,692	0
33 Northwestern University	127,911	27,047	10,954	477	2,693	78,649	1,522	2,699	3,870
34 University of Chicago	125,982	0	26,486	6,420	1,793	87,762	1,225	2,296	0
35 Ohio State University	124,177	18,760	11,209	6,145	3,519	72,194	2,716	9,265	369
36 Emory University	118,045	0	4,701	0	619	111,682	805	238	0
37 U of Iowa	115,312	8,642	11,749	337	813	89,203	2,269	2,299	0
38 U CA Davis	114,912	10,377	9,072	2,048	2,687	88,532	1,407	789	0
39 Georgia Institute of Tech	113,643	72,542	9,631	6,359	14,789	6,965	1,280	1,137	940
40 Baylor Col of Medicine	110,610	0	0	0	0	110,610	0	0	0
Total, 1st 40 institutions	8,158,589	1,326,819	1,030,232	501,755	410,504	4,494,233	120,901	206,921	67,224
41 University of Florida	106,510	21,735	10,061	2,073	5,110	63,549	2,289	1,674	19
42 Vanderbilt University	106,325	4,669	9,043	188	598	86,936	1,644	3,247	0
43 Boston University	104,428	10,610	10,550	2,560	3,505	67,475	1,800	766	7,162
44 University of Miami	101,492	1,194	1,988	27,452	270	62,022	5,055	3,511	0
45 New York University	101,426	0	3,557	199	9,462	81,747	4,251	1,738	472
46 University of Utah	100,722	12,197	9,158	3,097	11,169	63,895	871	335	0
47 U TX SW Med Ctr Dallas	97,200	0	0	0	0	97,200	0	0	0
48 Indiana University	95,840	203	17,336	757	2,290	64,970	5,460	4,710	114
49 Carnegie Mellon U	95,046	23,142	5,728	246	48,264	6,926	4,134	5,698	908
50 University of Virginia	93,328	14,508	10,207	4,048	5,447	55,873	2,657	578	10
Total, 1st 50 institutions	9,160,906	1,415,077	1,107,860	542,375	496,619	5,144,826	149,062	229,178	75,909

See explanatory information and SOURCE at end of table.

**Table B-40. Federally financed R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
51 Purdue University	92,844	34,899	14,045	2,411	4,214	32,707	1,771	2,647	150
52 SUNY Stony Brook	91,531	6,498	16,404	11,187	5,208	48,990	2,077	1,041	126
53 University of Cincinnati	90,307	11,992	2,188	42	171	74,095	199	1,440	180
54 Univ of Hawaii Manoa	86,886	3,728	12,873	33,624	270	31,608	818	1,081	2,884
55 Georgetown University	84,801	0	3,364	235	72	79,223	70	1,837	0
56 University of New Mexico	84,365	20,093	7,997	1,443	2,358	26,611	2,663	1,890	21,310
57 VA Polytech Inst & St U	82,734	25,000	4,852	27,820	3,575	18,391	2,046	1,050	0
58 Oregon State University	82,416	9,364	5,123	25,699	1,779	40,011	18	415	7
59 Michigan State University	81,146	5,096	19,658	209	1,921	45,496	1,256	7,457	53
60 Colorado State University	80,451	8,653	7,529	10,630	1,252	42,266	3,044	686	6,391
Total, 1st 60 institutions	10,018,387	1,540,400	1,201,893	655,675	517,439	5,584,224	163,024	248,722	107,010
61 Yeshiva University	80,000	0	0	0	0	80,000	0	0	0
62 NC State University	79,533	33,161	8,565	6,654	5,157	23,450	470	782	1,294
63 U of MD Baltimore	78,037	0	0	0	0	78,037	0	0	0
64 SUNY Buffalo	76,037	14,129	5,380	310	2,274	48,799	4,223	922	0
65 University of IL Chicago	73,797	5,007	4,840	320	1,753	56,850	2,298	1,350	1,379
66 Oregon Health Sciences U ...	71,054 <i>i</i>	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>	66,743 <i>i</i>	4,311 <i>i</i>	0 <i>i</i>	0 <i>i</i>
67 UT-Houston Hlth Sci Ctr	70,446	0	0	0	0	70,446	0	0	0
68 Mt Sinai Sch Med	69,995	0	0	0	0	69,995	0	0	0
69 Rutgers the State U NJ	69,829	11,517	10,537	6,082	8,649	24,892	3,087	5,011	54
70 U of Tennessee System	69,793	12,855	7,175	6,744	3,860	37,064	37	1,538	520
Total, 1st 70 institutions	10,756,908	1,617,069	1,238,390	675,785	539,132	6,140,500	177,450	258,325	110,257
71 Princeton University	69,005	20,707	19,863	5,815	3,664	11,424	5,086	2,446	0
72 U CA Santa Barbara	68,408	26,393	13,868	11,458	6,697	5,262	1,206	3,483	41
73 Louisiana St U, All Camp	67,090	13,535	8,015	5,886	387	37,833	238	1,148	48
74 U CA Irvine	65,902	4,247	12,358	1,539	2,538	41,302	2,273	1,645	0
75 Woods Hole Oceanograph ...	64,765	9,096	0	55,669	0	0	0	0	0
76 U TX MD Anderson Cnrc	63,074	0	2,583	0	144	60,347	0	0	0
77 Tufts University	61,167	3,788	3,079	60	630	51,225	1,300	1,085	0
78 Allegheny U of Hlth Sci	61,102	0	0	0	0	61,102	0	0	0
79 University of Kentucky	60,760	9,871	3,422	161	976	41,679	727	1,696	2,228
80 U Med & Dent NJ	59,828	0	0	0	0	59,828	0	0	0
Total, 1st 80 institutions	11,398,009	1,704,706	1,301,578	756,373	554,168	6,510,502	188,280	269,828	112,574
81 Wayne State University	57,646	2,613	4,376	0	561	46,472	2,035	1,589	0
82 Wake Forest University	56,705	0	473	0	185	56,023	0	0	24
83 New Mexico State Univ	56,587	37,487	3,395	4,151	3,665	6,936	363	574	16
84 U TX Hlth Sci Ctr San Ant	55,004	0	0	0	0	55,004	0	0	0
85 Utah State University	54,903	29,337	2,726	6,682	537	13,189	219	1,523	690
86 University of Georgia	54,712	613	2,994	3,683	666	42,412	2,221	2,123	0
87 University of Oklahoma	54,451	3,264	6,079	11,419	267	26,845	3,006	3,571	0
88 U MA Worcester	53,766	0	0	0	0	53,766	0	0	0
89 University of Connecticut	53,189	5,564	2,030	3,689	338	37,120	2,545	1,903	0
90 Tulane University	52,924	3,130	1,759	90	429	44,002	61	228	3,225
Total, 1st 90 institutions	11,947,896	1,786,714	1,325,410	786,087	560,816	6,892,271	198,730	281,339	116,529
91 Thomas Jefferson U	51,728	0	0	0	0	51,728	0	0	0
92 Iowa State University	51,196	14,229	5,258	914	3,210	20,402	16	6,961	206
93 University of Kansas	50,567	7,674	5,484	2,173	597	28,377	744	332	5,186
94 Florida State University	50,451	1,966	25,596	9,725	2,513	5,780	2,728	2,143	0
95 U TX Med Br Galveston	48,588	278	0	0	0	48,310	0	0	0
96 Virginia Commonwealth U	48,167	178	1,836	5	1,220	43,479	1,007	442	0
97 U of Missouri Columbia	45,448	4,254	2,075	451	649	31,875	2,426	3,718	0
98 George Washington U	45,072	6,894	858	73	11,779	13,989	485	1,600	9,394
99 Dartmouth College	45,053	5,088	2,800	351	878	34,859	500	365	212
100 Washington State U	44,510	6,982	3,615	692	378	28,160	254	3,153	1,276
Total, 1st 100 institutions	12,428,676	1,834,257	1,372,932	800,471	582,040	7,199,230	206,890	300,053	132,803

See explanatory information and SOURCE at end of table.

**Table B-40. Federally financed R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
101 Brown University	44,412	5,958	4,117	3,718	8,137	19,938	1,600	944	0
102 The Rockefeller Univ	43,845	0	4,171	0	567	39,107	0	0	0
103 Medical Col of Wisconsin	43,831	0	0	0	0	43,831	0	0	0
104 U MA Amherst	43,196	5,894	13,750	2,967	7,287	10,256	3,009	33	0
105 U of South Carolina	42,586	10,545	7,236	6,062	2,624	8,925	2,470	2,398	2,326
106 Mississippi State U	42,004	15,833	1,726	2,677	755	17,370	0	1,858	1,785
107 U of Nebraska Lincoln	41,888e	3,771 i	4,269 i	8,821 i	918 i	22,279 i	333 i	1,497 i	0 i
108 Arizona State University	41,359	12,501	9,996	4,721	1,723	6,371	4,426	1,351	270
109 Med U of South Carolina	36,473	0	0	0	0	36,473	0	0	0
110 University of Dayton	36,329	34,141	1,609	95	321	155	8	0	0
Total, 1st 110 institutions	12,844,599	1,922,900	1,419,806	829,532	604,372	7,403,935	218,736	308,134	137,184
111 U of South Florida	35,930	6,284	638	10,314	100	14,694	3,259	641	0
112 Rice University	34,772	4,263	7,225	7,285	12,072	3,539	235	153	0
113 SUNY Albany	33,894	0	2,276	2,619	248	23,274	1,975	3,502	0
114 University of Delaware	33,688	10,647	6,868	5,596	3,615	3,115	957	2,890	0
115 U of Rhode Island	33,308	2,326	687	18,314	133	6,783	4,490	143	432
116 US Naval Postgrad School ...	33,308	8,850 i	2,087 i	8,029 i	6,937 i	0 i	0 i	4,564 i	2,841 i
117 U of Alaska Fairbanks	31,505	630 i	7,805 i	17,767 i	16 i	4,841 i	0 i	446 i	0 i
118 University of Vermont	31,460	538	538	371	482	27,751	288	0	1,492
119 U CA Santa Cruz	29,849	2,123	8,415	5,515	1,457	5,895	776	5,665	3
120 Syracuse University	29,200	8,570	5,954	669	6,609	3,623	701	1,994	1,080
Total, 1st 120 institutions	13,171,513	1,967,131	1,462,299	906,011	636,041	7,497,450	231,417	328,132	143,032
121 Temple University	28,793	520	1,046	0	394	21,568	3,151	2,114	0
122 Rush University	28,444	0	0	0	0	27,465	979	0	0
123 Clemson University	28,199	8,315	1,805	308	1,275	14,996	34	1,255	211
124 Brandeis University	28,098	0	3,432	0	1,157	14,762	1,272	7,475	0
125 Auburn University	27,706	10,644	2,024	307	335	11,062	772	563	1,999
126 University of Oregon	27,041	1,530	6,034	2,307	2,814	11,903	1,552	901	0
127 Kansas State University	27,001	5,110	5,819	133	511	13,771	264	984	409
128 Tuskegee University	26,894	7,102	1,158	0	0	17,524	0	1,110	0
129 U of New Hampshire	25,913	1,409	1,272	15,315	412	4,104	1,624	1,777	0
130 West Virginia University	24,985	9,472	1,922	1,021	637	10,774	253	90	816
Total, 1st 130 institutions	13,444,587	2,011,233	1,486,811	925,402	643,576	7,645,379	241,318	344,401	146,467
131 Clark Atlanta University	24,079	4,314	4,562	6,637	2,793	5,095	0	678	0
132 Montana St U Bozeman	23,982	3,225	5,355	563	544	12,094	0	1,401	800
133 U of Alabama Huntsville	23,772	7,260	4,940	4,165	4,631	496	0	2	2,278
134 Saint Louis University	23,341	11	0	698	2	22,595	18	17	0
135 Oklahoma State University	23,220	5,604	2,846	200	2,382	9,232	278	1,508	1,170
136 University of Notre Dame	23,053	6,385	11,410	0	1,727	2,792	603	136	0
137 U CA Riverside	22,988	2,493	5,346	3,200	275	9,251	2,171	252	0
138 University of Houston	22,018	7,783	4,051	136	2,237	4,963	2,090	756	2
139 U PR Mayaguez	21,903	3,174	1,404	3,051	289	13,985	0	0	0
140 U Arkansas Medical Sci	21,857	0	0	0	0	21,857	0	0	0
Total, 1st 140 institutions	13,674,800	2,051,482	1,526,725	944,052	658,456	7,747,739	246,478	349,151	150,717
141 Rensselaer Polytech Inst	21,774	11,925	4,579	842	2,775	1,315	0	204	134
142 Howard University	21,501	3,396	3,519	59	1,559	12,066	52	850	0
143 Northeastern University	21,454	8,960	5,474	0	1,420	4,253	818	529	0
144 NJ Inst of Technology	21,127	11,162	1,958	4,014	1,636	0	0	78	2,279
145 U of Nevada Reno	20,383	1,804	1,752	2,650	94	12,327	599	662	495
146 San Diego St University	19,721	2,264	975	1,117	196	11,024	2,761	320	1,064
147 University of Idaho	18,352	1,413	627	2,451	204	13,446	177	34	0
148 SUNY Hlth Sci Ctr Brklyn	18,318	0	0	0	0	18,318	0	0	0
149 University of Wyoming	17,806	1,277	2,350	4,453	418	8,552	262	139	355
150 Loyola U of Chicago	17,685	0	665	2	168	15,676	502	622	50
Total, 1st 150 institutions	13,872,921	2,093,683	1,548,624	959,640	666,926	7,844,716	251,649	352,589	155,094

See explanatory information and SOURCE at end of table.

**Table B-40. Federally financed R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
151 Texas Tech University	17,481	6,628	1,658	334	977	5,207	39	1,972	666
152 George Mason University	17,268	5,258	3,645	41	1,524	1,161	1,787	3,852	0
153 U Mississippi, All Camp	16,463	1,993	3,206	0	47	10,825	158	234	0
154 U Arkansas Main	16,156	4,714	2,345	554	25	8,196	31	290	1
155 C R Drew U of Med & Sci	16,052e	0e	0e	0e	0e	16,052	0e	0e	0e
156 Florida A&M University	15,726	2,514	2,038	1,418	642	8,888	20	206	0
157 U of NE Med Ctr Omaha	15,663	0	0	0	0	15,663	0	0	0
158 Desert Research Institute	15,400	0	0	9,300	0	3,500	0	2,600	0
159 University of Louisville	15,067	1,709	1,308	70	91	11,308	112	469	0
160 Oregon Grad Inst Sci Tech	14,996e	1,505e	2,697e	3,997e	6,797e	0	0	0	0
Total, 1st 160 institutions	14,033,193	2,118,004	1,565,521	975,354	677,029	7,925,516	253,796	362,212	155,761
161 The University of Alabama	14,909	8,518	1,669	1,278	403	1,495	310	1,000	236
162 CUNY City College	14,437	4,084	6,683	13	948	2,505	55	149	0
163 Florida International U	14,243	7,470	1,076	225	409	2,050	784	2,229	0
164 Michigan Tech University	13,938	8,166	1,384	1,132	212	2,967	0	77	0
165 New York Medical College	13,639	0	0	0	0	13,639	0	0	0
166 U of Central Florida	13,502	1,997	4,300	2,117	178	470	264	1,499	2,677
167 Univ of North Dakota	13,404	6,572	341	1,466	63	3,846	3	357	756
168 Medical Col of Georgia	13,127	0	0	0	0	13,127	0	0	0
169 U of Maine	13,028	1,104	737	5,085	59	5,412	286	345	0
170 Lehigh University	13,019	8,842	2,289	1,155	95	481	157	0	0
Total, 1st 170 institutions	14,170,439	2,164,757	1,584,000	987,825	679,396	7,971,508	255,655	367,868	159,430
171 NC A&T State University	12,924	8,409	451	0	374	3,197	70	422	1
172 Boston College	12,778	0	3,420	529	6,393	1,564	308	564	0
173 U MD Baltimore County	12,618	3,252	5,711	0	426	2,112	311	806	0
174 Morehouse School of Med	12,461	0	0	0	0	12,060	0	0	401
175 Old Dominion University	12,346	5,542	1,773	2,333	1,381	734	177	406	0
176 U MA Lowell	12,259	3,637	4,506	3,109	315	464	180	1	47
177 Mercer University	12,043	11,140	388	0	0	515	0	0	0
178 U PR Med Sci Campus	11,843	0	0	0	0	11,843	0	0	0
179 San Jose State University	11,825e	3,077e	1,052e	4,363e	122e	476e	2,698e	37e	0e
180 U MD Biotechnology Inst	11,789	0	0	4,995	0	6,794	0	0	0
Total, 1st 180 institutions	14,293,325	2,199,814	1,601,301	1,003,154	688,407	8,011,267	259,399	370,104	159,879
181 The University of Montana	11,748	0	558	132	1,636	9,047	38	337	0
182 U TX Arlington	11,294	8,744	1,077	123	64	795	2	489	0
183 Georgia State University	11,284	0	1,432	34	218	3,793	3,030	2,777	0
184 Col of William & Mary	11,097	0	2,968	6,828	462	617	6	216	0
185 Meharry Medical College	11,004e	0	0	673e	0	10,331e	0	0	0
186 Drexel University	10,929	8,025	1,123	601	451	139	0	590	0
187 Western Illinois U	10,867	2,309	1,849	1,108	1,895	1,984	199	1,523	0
188 Wright State University	10,832	1,531	1,219	53	404	7,081	463	81	0
189 U TX El Paso	10,758	3,431	645	1,308	965	2,726	781	902	0
190 Alabama A&M University	10,518	2,091	1,745	33	191	6,368	0	3	87
Total, 1st 190 institutions	14,403,656	2,225,945	1,613,917	1,014,047	694,693	8,054,148	263,918	377,022	159,966

See explanatory information and SOURCE at end of table.

**Table B-40. Federally financed R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
191 Ohio University	10,323	4,949	2,551	138	64	1,646	682	99	194
192 Illinois Inst of Tech	9,946	4,003	2,751	0	230	2,936	26	0	0
193 North Dakota State U	9,787	441	2,661	45	337	5,249	349	705	0
194 U of Nevada Las Vegas	9,713	519	3,319	4,328	85	1,431	0	31	0
195 Brigham Young University	9,694	4,129	1,904	124	283	1,623	94	1,537	0
196 Prairie View A&M U	9,612	3,899	1,428	5	463	3,652	0	72	93
197 Florida Atlantic U	9,582	6,920	213	60	564	221	1,205	399	0
198 U Southern Mississippi	9,536	150	3,296	2,358	212	809	131	97	2,483
199 U of South Alabama	9,451	460	51	249	165	8,456	42	28	0
200 Eastern VA Med School	9,449	0	0	0	0	9,449	0	0	0
Total, 1st 200 institutions	14,500,749	2,251,415	1,632,091	1,021,354	697,096	8,089,620	266,447	379,990	162,736
Total, all other sampled insts	575,822	97,848	103,150	46,782	33,189	210,339	30,582	38,349	15,583

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-41. Non-Federal R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 1 of 5

Institution and ranking	Total	Engi-neering	Physical sciences	Envir-onmental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
Total, all institutions	10,658,697	1,704,479	704,318	546,963	332,029	6,247,086	139,876	702,685	281,261
1 U CA Berkeley	249,300	51,801	34,550	3,259	1,925	108,834	3,082	31,418	14,431
2 Texas A&M University	248,782	80,320	9,626	17,253	4,143	115,483	834	14,760	6,363
3 U CA Los Angeles	213,665	15,096	12,177	2,487	2,362	153,916	2,268	22,796	2,563
4 U WI Madison	203,182	22,470	10,484	7,621	2,992	138,448	3,946	16,450	771
5 University of Michigan	185,311	41,136	5,901	6,114	4,740	98,531	5,300	22,120	1,469
6 Ohio State University	177,341	51,515	8,524	3,336	11,612	91,719	1,114	9,521	0
7 Pennsylvania State U	176,369	57,539	11,927	11,262	1,726	47,349	3,188	32,242	11,136
8 NC State University	174,721	47,117	6,822	10,089	6,807	98,286	109	4,084	1,407
9 U CA Davis	173,884	17,349	3,981	4,499	871	144,444	151	2,487	102
10 U of Illinois Urbana	169,970	36,986	10,027	19,122	27,124	51,180	2,369	15,700	7,462
Total, 1st 10 institutions	1,972,525	421,329	114,019	85,042	64,302	1,048,190	22,361	171,578	45,704
11 University of Florida	168,352	26,886	11,713	4,636	3,144	113,677	1,183	7,008	105
12 University of Georgia	163,233	6,619	7,067	7,546	6,225	106,583	3,804	25,389	0
13 U CA San Francisco	160,058	0	0	0	0	160,058	0	0	0
14 Cornell University	159,324	16,271	18,335	1,931	6,015	105,016	3,539	8,217	0
15 U CA San Diego	156,487	19,017	9,619	40,667	8,187	72,085	1,104	4,579	1,229
16 University of Minnesota	155,582	13,473	2,530	6,237	3,506	116,381	1,459	11,996	0
17 Georgia Institute of Tech	145,590	92,930	12,337	8,146	18,943	8,921	1,640	1,458	1,215
18 Louisiana St U, All Camp	141,838	22,070	5,525	16,798	2,540	86,376	491	7,075	963
19 University of Arizona	140,329	18,162	27,393	4,077	2,723	78,350	1,331	8,253	40
20 Rutgers the State U NJ	127,224	14,391	9,724	8,586	8,303	66,814	4,066	12,687	2,653
Total, 1st 20 institutions	3,490,542	651,148	218,262	183,666	123,888	1,962,451	40,978	258,240	51,909
21 Purdue University	123,635	33,197	8,085	1,203	4,473	63,318	726	12,399	234
22 Michigan State University	112,465	12,741	10,485	1,024	1,639	75,408	949	8,224	1,995
23 Duke University	109,856	3,555	2,281	4,319	742	94,910	441	3,608	0
24 Baylor Col of Medicine	105,918	0	0	0	0	105,918	0	0	0
25 Iowa State University	105,570	26,141	4,341	823	7,690	55,414	568	5,982	4,611
26 MA Institute of Tech	102,357	51,600	12,150	1,753	3,390	8,918	0	5,705	18,841
27 Johns Hopkins U	100,637	4,226	2,585	1,465	673	73,004	113	1,764	16,807
28 University of Kentucky	100,586	15,303	1,964	54	272	76,052	234	1,675	5,032
29 U of Washington	95,635	12,350	5,987	3,507	1,105	66,477	986	5,223	0
30 Northwestern University	95,324	15,589	4,934	102	1,516	55,267	440	3,294	14,182
Total, 1st 30 institutions	4,542,525	825,850	271,074	197,916	145,388	2,637,137	45,435	306,114	113,611
31 U MD College Park	93,992	28,533	18,152	1,627	7,863	22,591	374	14,852	0
32 U of Missouri Columbia	90,613	12,352	2,116	543	759	66,787	1,048	7,001	7
33 U of Pennsylvania	85,563	2,662	1,220	368	2,318	67,503	174	11,318	0
34 VA Polytech Inst & St U	84,384	23,844	4,163	1,412	1,713	48,104	925	4,223	0
35 U of Iowa	83,751	13,246	3,300	1,343	336	58,804	420	5,552	750
36 University of Colorado	82,861	12,111	14,543	11,967	2,325	37,614	3,249	972	80
37 Washington University	82,377	2,876	2,172	826	2,796	72,926	77	453	251
38 University of Connecticut	81,259	18,602	2,223	5,535	1,177	42,599	2,644	5,869	2,610
39 U of Tennessee System	80,901	14,972	4,411	4,865	3,830	48,316	19	3,182	1,306
40 Wayne State University	80,810	8,020	6,401	2	457	57,988	945	4,784	2,213
Total, 1st 40 institutions	5,389,036	963,068	329,775	226,404	168,962	3,160,369	55,310	364,320	120,828
41 U TX Austin	79,761	35,048	9,343	12,940	7,185	7,601	488	5,107	2,049
42 U of Southern California	78,259	8,156	2,269	3,925	9,429	49,838	343	3,362	937
43 U TX MD Anderson Cnrc	78,186	0	862	0	2,571	74,753	0	0	0
44 University of IL Chicago	77,942	7,972	3,757	1,415	982	53,668	1,147	3,730	5,271
45 U of Nebraska Lincoln	76,969e	16,258i	1,198i	3,042i	333i	51,732i	844i	3,544i	18i
46 Indiana University	75,914	3,425	3,939	1,005	1,827	45,250	1,750	10,919	7,799
47 SUNY Buffalo	75,613	13,561	5,533	1,073	4,813	44,315	1,367	4,788	163
48 University of Oklahoma	72,410	10,744	6,322	11,955	2,658	29,402	4,839	6,490	0
49 The Rockefeller Univ	71,649	0	2,597	0	1,667	67,385	0	0	0
50 University of Cincinnati	69,388	9,577	2,168	44	93	55,483	283	957	783
Total, 1st 50 institutions	6,145,127	1,067,809	367,763	261,803	200,520	3,639,796	66,371	403,217	137,848

See explanatory information and SOURCE at end of table.

**Table B-41. Non-Federal R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
51 U of South Florida	68,395	9,444	717	3,929	145	48,922	3,745	1,493	0
52 Stanford University	67,883	13,612	4,329	2,105	2,365	40,327	416	4,729	0
53 University of Kansas	66,548	6,077	4,872	7,290	643	38,115	266	3,444	5,841
54 U of MD Baltimore	65,284	0	0	0	0	65,284	0	0	0
55 U CA Irvine	64,513	7,411	5,184	710	2,192	44,791	385	2,812	1,028
56 U of NC Chapel Hill	63,791	0	3,569	4,079	3,070	45,259	170	7,644	0
57 Clemson University	61,951	18,269	3,964	678	2,797	32,945	76	2,759	463
58 Univ of Hawaii Manoa	61,121	1,487	13,319	14,970	100	25,408	252	2,921	2,664
59 U of Alabama Birmingham	60,890	3,038	1,081	15	89	56,131	414	122	0
60 Auburn University	60,062	6,595	714	111	162	37,524	58	1,720	13,178
Total, 1st 60 institutions	6,785,565	1,133,742	405,512	295,690	212,083	4,074,502	72,153	430,861	161,022
61 Colorado State University	59,728	9,345	2,921	4,026	2,031	35,499	872	1,457	3,577
62 Mississippi State U	58,406	7,029	1,116	1,383	782	44,883	160	1,648	1,405
63 Yale University	57,634	1,673	2,130	298	450	50,989	688	1,406	0
64 U CA Riverside	56,787	5,980	1,170	6,194	496	39,991	193	1,870	893
65 U TX SW Med Ctr Dallas	56,511	0	0	0	0	56,511	0	0	0
66 Oregon State University	55,824	4,814	1,120	4,534	585	43,227	25	1,478	41
67 U Arkansas Main	55,530	6,862	2,638	2,078	1,464	38,327	426	3,539	196
68 New York University	55,026	0	3,362	706	2,672	42,604	1,204	4,060	418
69 Emory University	54,839	0	1,288	0	289	52,027	578	657	0
70 U Med & Dent NJ	54,663	0	0	0	0	54,663	0	0	0
Total, 1st 70 institutions	7,350,513	1,169,445	421,257	314,909	220,852	4,533,223	76,299	446,976	167,552
71 Kansas State University	54,232	7,862	1,529	133	570	40,497	679	2,022	940
72 Harvard University	54,224	617	757	432	131	31,481	432	18,276	2,098
73 Washington State U	50,912	5,339	859	234	111	36,645	165	6,681	878
74 Arizona State University	50,660	20,244	9,920	433	2,373	5,935	1,534	7,213	3,008
75 SUNY Stony Brook	50,235	3,585	7,574	5,379	2,708	28,778	628	1,279	304
76 U of South Carolina	50,199	6,571	4,419	7,434	7,324	9,255	761	5,281	9,154
77 Oklahoma State University ...	48,246	7,295	2,586	644	151	29,061	182	3,697	4,630
78 Princeton University	46,991	15,098	8,251	3,001	2,620	6,419	892	10,710	0
79 U MA Amherst	46,774	10,370	9,295	4,176	3,815	16,299	1,126	987	706
80 University of Pittsburgh	45,331	3,876	1,760	67	363	37,340	256	1,505	164
Total, 1st 80 institutions	7,848,317	1,250,302	468,207	336,842	241,018	4,774,933	82,954	504,627	189,434
81 U of Alaska Fairbanks	44,101	3,327 <i>i</i>	6,702 <i>i</i>	16,047 <i>i</i>	82 <i>i</i>	14,721 <i>i</i>	0 <i>i</i>	3,222 <i>i</i>	0 <i>i</i>
82 Case Western Reserve U	44,056	10,174	3,139	25	73	27,041	71	3,533	0
83 Florida State University	44,012	1,204	25,016	6,050	1,312	4,643	1,299	3,954	534
84 University of Rochester	43,844	3,915	1,170	70	110	34,971	3,326	278	4
85 Carnegie Mellon U	42,404	11,221	2,757	1,762	14,202	6,668	2,248	2,718	828
86 University of Utah	42,234	6,977	1,947	960	1,302	30,488	172	388	0
87 University of New Mexico	41,545	7,150	2,521	368	748	14,001	1,287	3,556	11,914
88 University of Idaho	40,615	7,465	1,204	2,661	150	27,741	499	895	0
89 University of Virginia	39,721	7,803	1,501	735	763	26,980	467	1,163	309
90 Mt Sinai Sch Med	39,453	0	0	0	0	39,453	0	0	0
Total, 1st 90 institutions	8,270,302	1,309,538	514,164	365,520	259,760	5,001,640	92,323	524,334	203,023
91 Utah State University	39,325	4,596	994	4,452	764	19,127	737	1,792	6,863
92 U TX Med Br Galveston	37,900	991	0	0	0	36,909	0	0	0
93 West Virginia University	37,377	9,451	1,007	1,327	311	23,425	218	1,517	121
94 Columbia University	37,284	3,463	3,056	2,692	345	26,380	114	1,234	0
95 University of Delaware	36,208	12,761	2,598	2,584	1,859	14,065	482	1,859	0
96 Texas Tech University	35,645	9,593	3,777	712	970	17,239	36	2,649	669
97 University of Miami	35,480	621	144	3,615	61	30,363	221	423	32
98 Tulane University	34,934	2,636	1,316	156	69	28,244	32	555	1,926
99 Allegheny U of Hlth Sci	34,882	0	0	0	0	34,882	0	0	0
100 U of NE Med Ctr Omaha	34,790	0	0	0	0	34,790	0	0	0
Total, 1st 100 institutions	8,634,127	1,353,650	527,056	381,058	264,139	5,267,064	94,163	534,363	212,634

See explanatory information and SOURCE at end of table.

**Table B-41. Non-Federal R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
101 Temple University	34,231	287	565	99	185	24,651	2,678	5,245	521
102 Oregon Health Sciences U ...	34,154 <i>i</i>	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>	33,557 <i>i</i>	597 <i>i</i>	0 <i>i</i>	0 <i>i</i>
103 Virginia Commonwealth U ...	32,371	136	1,556	93	247	27,489	1,857	993	0
104 Georgetown University	31,810	0	1,760	0	67	27,124	0	2,826	33
105 UT-Houston Hlth Sci Ctr	31,547	0	0	0	0	31,547	0	0	0
106 Tufts University	30,963	2,147	958	13	153	22,212	868	4,612	0
107 University of Wyoming	30,694	4,729	2,732	5,934	288	11,105	97	509	5,300
108 U TX Hlth Sci Ctr San Ant ...	30,403	0	0	0	0	30,403	0	0	0
109 North Dakota State U	30,220	481	1,855	22	255	27,113	86	408	0
110 Brown University	29,565	3,610	3,888	1,654	4,511	11,038	914	3,950	0
Total, 1st 110 institutions	8,950,085	1,365,040	540,370	388,873	269,845	5,513,303	101,260	552,906	218,488
111 George Washington U	29,409	2,814	224	41	2,008	12,883	382	5,703	5,354
112 U PR Mayaguez	29,278	3,014	798	1,550	91	23,706	51	68	0
113 U MA Worcester	29,184	0	0	0	0	29,184	0	0	0
114 Vanderbilt University	28,889	2,860	1,682	83	167	22,598	367	1,132	0
115 Montana St U Bozeman	28,310	3,967	1,327	237	63	20,268	0	885	1,563
116 U CA Santa Barbara	27,626	8,584	4,200	5,395	2,507	2,340	214	3,968	418
117 Rush University	26,833	0	0	0	0	24,913	1,920	0	0
118 U CA Santa Cruz	26,684	500	14,266	5,875	593	2,864	463	1,953	170
119 Medical Col of Georgia	26,679	0	0	0	0	26,679	0	0	0
120 U of New Hampshire	26,446	4,111	565	10,457	421	7,802	195	2,604	291
Total, 1st 120 institutions	9,229,423	1,390,890	563,432	412,511	275,695	5,686,540	104,852	569,219	226,284
121 University of Vermont	26,372	756	240	192	273	23,264	210	36	1,401
122 University of Chicago	25,653	0	2,866	1,322	384	15,586	662	4,653	180
123 Boston University	25,626	4,359	2,347	913	277	16,069	471	344	846
124 U of Nevada Reno	25,093	2,188	846	1,826	37	9,434	548	1,487	8,727
125 University of Louisville	24,080	1,595	621	18	123	19,700	139	1,884	0
126 Sthrn IL U Carbondale	22,689	4,099	1,223	226	716	12,037	135	1,368	2,885
127 San Diego St University	22,194	1,853	1,532	1,153	802	7,999	1,889	3,416	3,550
128 U of Central Florida	22,028	4,386	5,495	6,236	492	384	75	3,142	1,818
129 New Mexico State Univ	20,783	8,700	543	902	862	9,394	50	224	108
130 University of Houston	20,279	11,314	3,719	854	997	1,905	912	577	1
Total, 1st 130 institutions	9,464,220	1,430,140	582,864	426,153	280,658	5,802,312	109,943	586,350	245,800
131 Wake Forest University	20,188	0	196	0	0	19,964	0	0	28
132 U of Maine	20,078	3,895	1,204	5,184	134	8,864	32	765	0
133 U MD Biotechnology Inst	20,072	0	0	2,922	0	17,150	0	0	0
134 Dartmouth College	19,911	2,045	732	279	516	15,119	632	292	296
135 Georgia State University	19,869	0	3,604	368	729	4,346	4,382	6,091	349
136 NJ Inst of Technology	19,855	8,552	1,169	4,518	1,278	0	0	91	4,247
137 Med U of South Carolina	19,464	0	0	0	0	19,464	0	0	0
138 SUNY Col Env Sci Frstry	19,321	7,058 <i>i</i>	1,031 <i>i</i>	2,103 <i>i</i>	0 <i>i</i>	9,029 <i>i</i>	0 <i>i</i>	100 <i>i</i>	0 <i>i</i>
139 Yeshiva University	19,000	0	0	0	0	19,000	0	0	0
140 U of Southwestern LA	18,934	3,789	554	181	2,210	9,890	258	774	1,278
Total, 1st 140 institutions	9,660,912	1,455,479	591,354	441,708	285,525	5,925,138	115,247	594,463	251,998
141 Thomas Jefferson U	17,732	0	0	0	0	17,732	0	0	0
142 U Arkansas Medical Sci	17,630	0	0	0	0	17,630	0	0	0
143 Rensselaer Polytech Inst	16,786	12,038	2,200	521	555	1,436	0	13	23
144 SUNY Albany	16,674	0	3,925	3,533	448	4,947	441	3,380	0
145 The University of Memphis ...	16,637	2,073	617	2,353	1,026	2,128	3,694	3,484	1,262
146 U MD Ctr for Environ Sci	16,598	0	0	16,598	0	0	0	0	0
147 Loyola U of Chicago	16,556	0	306	34	153	13,304	207	1,885	667
148 Brandeis University	16,491	0	816	0	68	5,542	211	9,854	0
149 Col of William & Mary	14,869	0	1,065	11,710	89	304	90	1,611	0
150 SUNY Binghamton	14,549	4,453	2,037	758	1,113	1,475	1,941	2,772	0
Total, 1st 150 institutions	9,825,434	1,474,043	602,320	477,215	288,977	5,989,636	121,831	617,462	253,950

See explanatory information and SOURCE at end of table.

**Table B-41. Non-Federal R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
151 NM Inst Mining & Tech	13,832	9,648	1,031	2,914	127	36	76	0	0
152 U of Missouri Rolla	13,806	9,647	2,510	642	688	317	2	0	0
153 U of Alabama Huntsville	13,174	7,127	1,507	1,012	2,377	501	15	104	531
154 Lehigh University	13,096	11,512	1,068	124	169	144	8	71	0
155 Unif Svcs U of Hlth Sci	12,762	0	0	0	0	12,762	0	0	0
156 Michigan Tech University	12,584	8,793	443	431	93	2,357	0	123	344
157 University of Akron	12,284	4,463	6,883	116	126	431	133	132	0
158 Eastern VA Med School	12,223	0	0	0	0	12,223	0	0	0
159 Medical Col of Wisconsin	12,190	0	0	0	0	12,190	0	0	0
160 Colorado School of Mines	11,987	9,319	1,274	317	1,075	0	0	2	0
Total, 1st 160 institutions	9,953,372	1,534,552	617,036	482,771	293,632	6,030,597	122,065	617,894	254,825
161 U WI Milwaukee	11,871	1,959	1,880	1,826	441	1,360	197	3,170	1,038
162 Inst Paper Sci and Tech	11,678e	6,806e	3,456e	0e	0e	1,416e	0e	0e	0e
163 U Mississippi, All Camp	11,616	1,015	905	0	50	9,350	5	291	0
164 Ohio University	11,146	4,287	1,235	225	31	4,018	299	709	342
165 Creighton University	10,915	0	1	0	0	10,873	0	41	0
166 Wichita State University	10,471	8,845	619	22	153	735	56	41	0
167 Tuskegee University	10,460	2,729	980	0	0	6,339	0	412	0
168 Woods Hole Oceanograph ...	10,246	2,920	0	7,326	0	0	0	0	0
169 South Dakota State U	9,819	740	92	320	48	8,187	0	432	0
170 SUNY Hlth Sci Ctr Brklyn	9,199	0	0	0	0	9,199	0	0	0
Total, 1st 170 institutions	10,060,793	1,563,853	626,204	492,490	294,355	6,082,074	122,622	622,990	256,205
171 San Jose State University	9,180e	2,693e	829e	5,064e	206e	122e	240e	26e	0e
172 The University of Alabama ...	9,134	3,026	1,119	898	2,707	299	5	775	305
173 Wright State University	8,844	1,790	826	141	261	4,862	634	150	180
174 Drexel University	8,674	4,842	209	203	1,225	134	0	2,061	0
175 University of Dayton	8,671	7,277	915	8	127	126	12	25	181
176 Tennessee Tech U	8,596	7,755	131	33	0	672	0	5	0
177 The University of Montana ...	8,385	0	223	99	209	4,849	1	1,049	1,955
178 U MA Boston	8,331	16	122	939	5	1,610	126	5,218	295
179 Syracuse University	8,122	357	21	451	4,572	856	1,097	619	149
180 U PR Med Sci Campus	7,987	0	0	0	0	7,987	0	0	0
Total, 1st 180 institutions	10,146,717	1,591,609	630,599	500,326	303,667	6,103,591	124,737	632,918	259,270
181 Old Dominion University	7,804	2,391	445	3,047	391	1,271	134	125	0
182 U TX Arlington	7,781	5,607	1,149	100	76	591	40	218	0
183 Northern Illinois U	7,685	431	1,181	580	200	672	108	4,513	0
184 SUNY Hlth Sci Ctr Syrcse	7,602	0	0	0	0	7,602	0	0	0
185 Cleveland State U	7,515e	1,754e	162e	3e	19e	223e	3e	5,351e	0
186 Western Michigan U	7,509	2,195	271	177	1,031	641	64	3,110	20
187 California Inst of Tech	7,318	4,094	421	1,373	124	1,009	0	297	0
188 U of Nevada Las Vegas	7,199	414	1,989	2,003	339	1,031	1	1,091	331
189 U MA Lowell	7,113	3,859	1,161	421	410	467	194	465	136
190 U TX Dallas	7,096	1,021	2,368	549	466	680	159	1,808	45
Total, 1st 190 institutions	10,221,339	1,613,375	639,746	508,579	306,723	6,117,778	125,440	649,896	259,802

See explanatory information and SOURCE at end of table.

**Table B-41. Non-Federal R&D expenditures at universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
191 CUNY Hunter College	7,083	0	1,627	558	251	1,915	913	1,709	110
192 CUNY City College	6,710	3,877	1,590	152	2	1,010	79	0	0
193 U of Missouri Kansas City	6,676	149	294	94	211	4,635	460	375	458
194 Rice University	6,295	2,537	1,962	300	595	901	0	0	0
195 Stevens Inst of Tech	6,277	3,125	1,072	966	53	0	0	1,061	0
196 University of Oregon	6,274	402	1,291	475	497	2,548	484	577	0
197 University of North Texas	6,192	273	2,197	435	344	1,113	787	1,030	13
198 University of Toledo	6,146	3,626	905	26	7	1,202	97	242	41
199 Desert Research Institute	6,100	0	0	5,100	0	500	0	500	0
200 Oregon Grad Inst Sci Tech ..	6,051e	2,485e	323e	967e	2,276e	0	0	0	0
Total, 1st 200 institutions	10,285,143	1,629,849	651,007	517,652	310,959	6,131,602	128,260	655,390	260,424
Total, all other sampled insts	373,554	74,630	53,311	29,311	21,070	115,484	11,616	47,295	20,837

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-42. R&D expenditures at public universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 1 of 4

Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
Total, all institutions	17,391,022	2,854,912	1,550,035	1,275,232	602,855	9,604,887	326,127	863,368	313,606
1 University of Michigan	496,761	109,219	23,072	24,737	8,422	270,466	10,712	48,299	1,834
2 U CA Los Angeles	447,367	42,967	36,402	8,060	10,989	313,422	7,374	25,580	2,573
3 U WI Madison	443,695	56,512	38,814	24,864	10,661	265,262	17,973	28,827	782
4 U of Washington	432,383	34,277	22,595	61,755	8,923	288,925	9,911	5,997	0
5 U CA Berkeley	420,435	99,697	76,164	5,755	5,784	174,403	7,449	35,559	15,624
6 U CA San Diego	418,790	46,172	37,948	100,882	20,387	199,279	3,552	9,302	1,268
7 Texas A&M University	393,720	108,306	20,765	69,912	7,076	159,093	2,236	19,593	6,739
8 U CA San Francisco	379,970	0	0	0	0	379,970	0	0	0
9 Pennsylvania State U	362,643	142,907	25,966	23,552	4,006	99,746	8,864	44,048	13,554
10 University of Minnesota	360,323	37,595	17,404	10,824	12,250	261,207	6,930	14,113	0
Total, 1st 10 institutions	4,156,087	677,652	299,130	330,341	88,498	2,411,773	75,001	231,318	42,374
11 U of Illinois Urbana	338,841	90,994	29,100	25,602	68,802	82,599	6,114	18,833	16,797
12 University of Colorado	311,203	28,935	45,369	74,325	8,593	142,135	7,348	3,375	1,123
13 University of Arizona	302,328	42,394	71,248	10,067	9,414	153,625	2,205	13,208	167
14 Ohio State University	301,518	70,275	19,733	9,481	15,131	163,913	3,830	18,786	369
15 U CA Davis	288,796	27,726	13,053	6,547	3,558	232,976	1,558	3,276	102
16 University of Florida	274,862	48,621	21,774	6,709	8,254	177,226	3,472	8,682	124
17 Georgia Institute of Tech	259,233	165,472	21,968	14,505	33,732	15,886	2,920	2,595	2,155
18 NC State University	254,254	80,278	15,387	16,743	11,964	121,736	579	4,866	2,701
19 U TX Austin	244,843	81,547	83,029	19,477	22,602	25,821	3,072	7,195	2,100
20 U of NC Chapel Hill	235,296	0	11,750	10,127	9,179	176,442	3,149	24,649	0
Total, 1st 20 institutions	6,967,261	1,313,894	631,541	523,924	279,727	3,704,132	109,248	336,783	68,012
21 U of Alabama Birmingham ...	227,720	8,345	2,449	15	308	211,039	5,403	161	0
22 U MD College Park	223,190	67,267	50,105	8,331	20,641	33,772	1,530	41,544	0
23 University of Georgia	217,945	7,232	10,061	11,229	6,891	148,995	6,025	27,512	0
24 Purdue University	216,479	68,096	22,130	3,614	8,687	96,025	2,497	15,046	384
25 University of Pittsburgh	213,842	7,532	10,108	583	3,009	182,827	4,293	4,142	1,348
26 Louisiana St U, All Camp	208,928	35,605	13,540	22,684	2,927	124,209	729	8,223	1,011
27 U of Iowa	199,063	21,888	15,049	1,680	1,149	148,007	2,689	7,851	750
28 Rutgers the State U NJ	197,053	25,908	20,261	14,668	16,952	91,706	7,153	17,698	2,707
29 Michigan State University	193,611	17,837	30,143	1,233	3,560	120,904	2,205	15,681	2,048
30 Indiana University	171,754	3,628	21,275	1,762	4,117	110,220	7,210	15,629	7,913
Total, 1st 30 institutions	9,036,846	1,577,232	826,662	589,723	347,968	4,971,836	148,982	490,270	84,173
31 VA Polytech Inst & St U	167,118	48,844	9,015	29,232	5,288	66,495	2,971	5,273	0
32 University of Kentucky	161,346	25,174	5,386	215	1,248	117,731	961	3,371	7,260
33 University of Cincinnati	159,695	21,569	4,356	86	264	129,578	482	2,397	963
34 Iowa State University	156,766	40,370	9,599	1,737	10,900	75,816	584	12,943	4,817
35 U TX SW Med Ctr Dallas	153,711	0	0	0	0	153,711	0	0	0
36 University of IL Chicago	151,739	12,979	8,597	1,735	2,735	110,518	3,445	5,080	6,650
37 SUNY Buffalo	151,650	27,690	10,913	1,383	7,087	93,114	5,590	5,710	163
38 U of Tennessee System	150,694	27,827	11,586	11,609	7,690	85,380	56	4,720	1,826
39 Univ of Hawaii Manoa	148,007	5,215	26,192	48,594	370	57,016	1,070	4,002	5,548
40 U of MD Baltimore	143,321	0	0	0	0	143,321	0	0	0
Total, 1st 40 institutions	10,580,893	1,786,900	912,306	684,314	383,550	6,004,516	164,141	533,766	111,400
41 University of Utah	142,956	19,174	11,105	4,057	12,471	94,383	1,043	723	0
42 SUNY Stony Brook	141,766	10,083	23,978	16,566	7,916	77,768	2,705	2,320	430
43 U TX MD Anderson Cnrc	141,260	0	3,445	0	2,715	135,100	0	0	0
44 Colorado State University	140,179	17,998	10,450	14,656	3,283	77,765	3,916	2,143	9,968
45 Wayne State University	138,456	10,633	10,777	2	1,018	104,460	2,980	6,373	2,213
46 Oregon State University	138,240	14,178	6,243	30,233	2,364	83,238	43	1,893	48
47 U of Missouri Columbia	136,061	16,606	4,191	994	1,408	98,662	3,474	10,719	7
48 University of Connecticut	134,448	24,166	4,253	9,224	1,515	79,719	5,189	7,772	2,610
49 University of Virginia	133,049	22,311	11,708	4,783	6,210	82,853	3,124	1,741	319
50 U CA Irvine	130,415	11,658	17,542	2,249	4,730	86,093	2,658	4,457	1,028
Total, 1st 50 institutions	11,957,723	1,933,707	1,015,998	767,078	427,180	6,924,557	189,273	571,907	128,023

See explanatory information and SOURCE at end of table.

**Table B-42. R&D expenditures at public universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
51 University of Oklahoma	126,861	14,008	12,401	23,374	2,925	56,247	7,845	10,061	0
52 University of New Mexico	125,910	27,243	10,518	1,811	3,106	40,612	3,950	5,446	33,224
53 U of Nebraska Lincoln	118,857e	20,029i	5,467i	11,863i	1,251i	74,011i	1,177i	5,041i	18i
54 University of Kansas	117,115	13,751	10,356	9,463	1,240	66,492	1,010	3,776	11,027
55 U Med & Dent NJ	114,491	0	0	0	0	114,491	0	0	0
56 Oregon Health Sciences U ...	105,208i	0i	0i	0i	0i	100,300i	4,908i	0i	0i
57 U of South Florida	104,325	15,728	1,355	14,243	245	63,616	7,004	2,134	0
58 UT-Houston Hlth Sci Ctr	101,993	0	0	0	0	101,993	0	0	0
59 Mississippi State U	100,410	22,862	2,842	4,060	1,537	62,253	160	3,506	3,190
60 U CA Santa Barbara	96,034	34,977	18,068	16,853	9,204	7,602	1,420	7,451	459
Total, 1st 60 institutions	13,068,927	2,082,305	1,077,005	848,745	446,688	7,612,174	216,747	609,322	175,941
61 Washington State U	95,422	12,321	4,474	926	489	64,805	419	9,834	2,154
62 Florida State University	94,463	3,170	50,612	15,775	3,825	10,423	4,027	6,097	534
63 Utah State University	94,228	33,933	3,720	11,134	1,301	32,316	956	3,315	7,553
64 U of South Carolina	92,785	17,116	11,655	13,496	9,948	18,180	3,231	7,679	11,480
65 Arizona State University	92,019	32,745	19,916	5,154	4,096	12,306	5,960	8,564	3,278
66 Clemson University	90,150	26,584	5,769	986	4,072	47,941	110	4,014	674
67 U MA Amherst	89,970	16,264	23,045	7,143	11,102	26,555	4,135	1,020	706
68 Auburn University	87,768	17,239	2,738	418	497	48,586	830	2,283	15,177
69 U TX Med Br Galveston	86,488	1,269	0	0	0	85,219	0	0	0
70 U TX Hlth Sci Ctr San Ant	85,407	0	0	0	0	85,407	0	0	0
Total, 1st 70 institutions	13,977,627	2,242,946	1,198,934	903,777	482,018	8,043,912	236,415	652,128	217,497
71 U MA Worcester	82,950	0	0	0	0	82,950	0	0	0
72 Kansas State University	81,233	12,972	7,348	266	1,081	54,268	943	3,006	1,349
73 Virginia Commonwealth U ...	80,538	314	3,392	98	1,467	70,968	2,864	1,435	0
74 U CA Riverside	79,775	8,473	6,516	9,394	771	49,242	2,364	2,122	893
75 New Mexico State Univ	77,370	46,187	3,938	5,053	4,527	16,330	413	798	124
76 U of Alaska Fairbanks	75,606	3,957i	14,507i	33,814i	98i	19,562i	0i	3,668i	0i
77 U Arkansas Main	71,686	11,576	4,983	2,632	1,489	46,523	457	3,829	197
78 Oklahoma State University ...	71,466	12,899	5,432	844	2,533	38,293	460	5,205	5,800
79 University of Delaware	69,896	23,408	9,466	8,180	5,474	17,180	1,439	4,749	0
80 Temple University	63,024	807	1,611	99	579	46,219	5,829	7,359	521
Total, 1st 80 institutions	14,731,171	2,363,539	1,256,127	964,157	500,037	8,485,447	251,184	684,299	226,381
81 West Virginia University	62,362	18,923	2,929	2,348	948	34,199	471	1,607	937
82 University of Idaho	58,967	8,878	1,831	5,112	354	41,187	676	929	0
83 University of Vermont	57,832	1,294	778	563	755	51,015	498	36	2,893
84 U CA Santa Cruz	56,533	2,623	22,681	11,390	2,050	8,759	1,239	7,618	173
85 Med U of South Carolina	55,937	0	0	0	0	55,937	0	0	0
86 Texas Tech University	53,126	16,221	5,435	1,046	1,947	22,446	75	4,621	1,335
87 U of New Hampshire	52,359	5,520	1,837	25,772	833	11,906	1,819	4,381	291
88 Montana St U Bozeman	52,292	7,192	6,682	800	607	32,362	0	2,286	2,363
89 U PR Mayaguez	51,181	6,188	2,202	4,601	380	37,691	51	68	0
90 SUNY Albany	50,568	0	6,201	6,152	696	28,221	2,416	6,882	0
Total, 1st 90 institutions	15,282,328	2,430,378	1,306,703	1,021,941	508,607	8,809,170	258,429	712,727	234,373
91 U of NE Med Ctr Omaha	50,453	0	0	0	0	50,453	0	0	0
92 University of Wyoming	48,500	6,006	5,082	10,387	706	19,657	359	648	5,655
93 U of Nevada Reno	45,476	3,992	2,598	4,476	131	21,761	1,147	2,149	9,222
94 University of Houston	42,297	19,097	7,770	990	3,234	6,868	3,002	1,333	3
95 San Diego St University	41,915	4,117	2,507	2,270	998	19,023	4,650	3,736	4,614
96 NJ Inst of Technology	40,982	19,714	3,127	8,532	2,914	0	0	169	6,526
97 North Dakota State U	40,007	922	4,516	67	592	32,362	435	1,113	0
98 Medical Col of Georgia	39,806	0	0	0	0	39,806	0	0	0
99 U Arkansas Medical Sci	39,487	0	0	0	0	39,487	0	0	0
100 University of Louisville	39,147	3,304	1,929	88	214	31,008	251	2,353	0
Total, 1st 100 institutions	15,710,398	2,487,530	1,334,232	1,048,751	517,396	9,069,595	268,273	724,228	260,393

See explanatory information and SOURCE at end of table.

**Table B-42. R&D expenditures at public universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
101 U of Rhode Island	37,940	3,214	824	19,105	133	7,912	4,855	247	1,650
102 U of Alabama Huntsville	36,946	14,387	6,447	5,177	7,008	997	15	106	2,809
103 U of Central Florida	35,530	6,383	9,795	8,353	670	854	339	4,641	4,495
104 US Naval Postgrad School	34,095	9,078i	2,170i	8,218i	6,978i	0i	0i	4,647i	3,004i
105 University of Oregon	33,315	1,932	7,325	2,782	3,311	14,451	2,036	1,478	0
106 U of Maine	33,106	4,999	1,941	10,269	193	14,276	318	1,110	0
107 U MD Biotechnology Inst	31,861	0	0	7,917	0	23,944	0	0	0
108 Georgia State University	31,153	0	5,036	402	947	8,139	7,412	8,868	349
109 Sthrn IL U Carbondale	30,490	5,484	1,420	761	793	16,616	565	1,735	3,116
110 U Mississippi, All Camp	28,079	3,008	4,111	0	97	20,175	163	525	0
Total, 1st 110 institutions	16,042,913	2,536,015	1,373,301	1,111,735	537,526	9,176,959	283,976	747,585	275,816
111 SUNY Hlth Sci Ctr Brklyn	27,517	0	0	0	0	27,517	0	0	0
112 Michigan Tech University	26,522	16,959	1,827	1,563	305	5,324	0	200	344
113 Col of William & Mary	25,966	0	4,033	18,538	551	921	96	1,827	0
114 U of Southwestern LA	24,768	5,660	860	199	3,178	12,461	258	874	1,278
115 The University of Alabama	24,043	11,544	2,788	2,176	3,110	1,794	315	1,775	541
116 U MD Ctr for Environ Sci	24,038	0	0	24,038	0	0	0	0	0
117 NM Inst Mining & Tech	22,791	15,526	2,012	4,868	176	133	76	0	0
118 George Mason University	22,543	5,964	3,869	59	1,685	2,700	1,954	6,312	0
119 The University of Memphis	22,486	2,666	1,021	2,916	1,272	2,806	6,405	4,138	1,262
120 SUNY Col Env Sci Frstry	22,036	7,293i	1,295i	2,283i	0i	11,032i	0i	133i	0i
Total, 1st 120 institutions	16,285,623	2,601,627	1,391,006	1,168,375	547,803	9,241,647	293,080	762,844	279,241
121 U of Missouri Rolla	21,740	15,086	4,068	1,221	919	444	2	0	0
122 Desert Research Institute	21,500	0	0	14,400	0	4,000	0	3,100	0
123 Ohio University	21,469	9,236	3,786	363	95	5,664	981	808	536
124 CUNY City College	21,147	7,961	8,273	165	950	3,515	134	149	0
125 San Jose State University	21,005e	5,770e	1,881e	9,427e	328e	598e	2,938e	63e	0e
126 U WI Milwaukee	20,807	3,349	4,054	3,325	834	2,569	561	5,075	1,040
127 SUNY Binghamton	20,754	6,024	3,578	1,010	1,587	2,232	3,171	3,152	0
128 Colorado School of Mines	20,681	14,296	3,784	995	1,561	0	0	45	0
129 Unif Svcs U of Hlth Sci	20,309	0	0	0	0	20,309	0	0	0
130 Old Dominion University	20,150	7,933	2,218	5,380	1,772	2,005	311	531	0
Total, 1st 130 institutions	16,495,185	2,671,282	1,422,648	1,204,661	555,849	9,282,983	301,178	775,767	280,817
131 The University of Montana	20,133	0	781	231	1,845	13,896	39	1,386	1,955
132 U PR Med Sci Campus	19,830	0	0	0	0	19,830	0	0	0
133 Wright State University	19,676	3,321	2,045	194	665	11,943	1,097	231	180
134 U MA Lowell	19,372	7,496	5,667	3,530	725	931	374	466	183
135 U TX Arlington	19,075	14,351	2,226	223	140	1,386	42	707	0
136 Florida A&M University	19,066	3,248	2,646	1,581	1,098	10,267	20	206	0
137 U MD Baltimore County	18,155	6,152	7,394	0	615	2,282	462	1,250	0
138 Florida International U	17,880	8,906	1,564	450	1,131	2,277	794	2,758	0
139 Univ of North Dakota	16,938	8,542	344	1,531	88	4,416	22	562	1,433
140 U of Nevada Las Vegas	16,912	933	5,308	6,331	424	2,462	1	1,122	331
Total, 1st 140 institutions	16,682,222	2,724,231	1,450,623	1,218,732	562,580	9,352,673	304,029	784,455	284,899

See explanatory information and SOURCE at end of table.

**Table B-42. R&D expenditures at public universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
141 University of Akron	16,326	5,915	8,380	116	427	894	136	458	0
142 Western Illinois U	15,882	2,700	3,296	1,957	3,049	2,755	301	1,824	0
143 South Dakota State U	15,631	1,147	578	469	48	12,782	0	607	0
144 U TX Dallas	15,211	1,680	5,202	974	770	2,467	1,541	2,366	211
145 NC A&T State University	14,816	9,597	463	0	386	3,833	70	466	1
146 Florida Atlantic U	14,265	8,643	340	1,554	1,031	404	1,342	951	0
147 Alabama A&M University	14,143	2,099	2,271	33	243	8,062	0	15	1,420
148 U TX El Paso	14,092	5,187	1,101	1,832	1,016	2,968	852	1,136	0
149 SUNY Hlth Sci Ctr Syrcse	14,089	0	0	0	0	14,089	0	0	0
150 CUNY Hunter College	13,497	0	3,853	1,008	252	4,410	1,913	1,921	140
Total, 1st 150 institutions	16,830,174	2,761,199	1,476,107	1,226,675	569,802	9,405,337	310,184	794,199	286,671
Total, all other sampled insts	560,848	93,713	73,928	48,557	33,053	199,550	15,943	69,169	26,935

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-43. Federally financed R&D expenditures at public universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
Total, all institutions	9,016,467	1,437,541	982,062	780,138	350,301	4,849,375	214,559	303,240	99,251
1 U of Washington	336,748	21,927	16,608	58,248	7,818	222,448	8,925	774	0
2 University of Michigan	311,450	68,083	17,171	18,623	3,682	171,935	5,412	26,179	365
3 U CA San Diego	262,303	27,155	28,329	60,215	12,200	127,194	2,448	4,723	39
4 U WI Madison	240,513	34,042	28,330	17,243	7,669	126,814	14,027	12,377	11
5 U CA Los Angeles	233,702	27,871	24,225	5,573	8,627	159,506	5,106	2,784	10
6 University of Colorado	228,342	16,824	30,826	62,358	6,268	104,521	4,099	2,403	1,043
7 U CA San Francisco	219,912	0	0	0	0	219,912	0	0	0
8 University of Minnesota	204,741	24,122	14,874	4,587	8,744	144,826	5,471	2,117	0
9 Pennsylvania State U	186,274	85,368	14,039	12,290	2,280	52,397	5,676	11,806	2,418
10 U of NC Chapel Hill	171,505	0	8,181	6,048	6,109	131,183	2,979	17,005	0
Total, 1st 10 institutions	2,395,490	305,392	182,583	245,185	63,397	1,460,736	54,143	80,168	3,886
11 U CA Berkeley	171,135	47,896	41,614	2,496	3,859	65,569	4,367	4,141	1,193
12 U of Illinois Urbana	168,871	54,008	19,073	6,480	41,678	31,419	3,745	3,133	9,335
13 University of Pittsburgh	168,511	3,656	8,348	516	2,646	145,487	4,037	2,637	1,184
14 U of Alabama Birmingham	166,830	5,307	1,368	0	219	154,908	4,989	39	0
15 U TX Austin	165,082	46,499	73,686	6,537	15,417	18,220	2,584	2,088	51
16 University of Arizona	161,999	24,232	43,855	5,990	6,691	75,275	874	4,955	127
17 Texas A&M University	144,938	27,986	11,139	52,659	2,933	43,610	1,402	4,833	376
18 U MD College Park	129,198	38,734	31,953	6,704	12,778	11,181	1,156	26,692	0
19 Ohio State University	124,177	18,760	11,209	6,145	3,519	72,194	2,716	9,265	369
20 U of Iowa	115,312	8,642	11,749	337	813	89,203	2,269	2,299	0
Total, 1st 20 institutions	3,911,543	581,112	436,577	333,049	153,950	2,167,802	82,282	140,250	16,521
21 U CA Davis	114,912	10,377	9,072	2,048	2,687	88,532	1,407	789	0
22 Georgia Institute of Tech	113,643	72,542	9,631	6,359	14,789	6,965	1,280	1,137	940
23 University of Florida	106,510	21,735	10,061	2,073	5,110	63,549	2,289	1,674	19
24 University of Utah	100,722	12,197	9,158	3,097	11,169	63,895	871	335	0
25 U TX SW Med Ctr Dallas	97,200	0	0	0	0	97,200	0	0	0
26 Indiana University	95,840	203	17,336	757	2,290	64,970	5,460	4,710	114
27 University of Virginia	93,328	14,508	10,207	4,048	5,447	55,873	2,657	578	10
28 Purdue University	92,844	34,899	14,045	2,411	4,214	32,707	1,771	2,647	150
29 SUNY Stony Brook	91,531	6,498	16,404	11,187	5,208	48,990	2,077	1,041	126
30 University of Cincinnati	90,307	11,992	2,188	42	171	74,095	199	1,440	180
Total, 1st 30 institutions	4,908,380	766,063	534,679	365,071	205,035	2,764,578	100,293	154,601	18,060
31 Univ of Hawaii Manoa	86,886	3,728	12,873	33,624	270	31,608	818	1,081	2,884
32 University of New Mexico	84,365	20,093	7,997	1,443	2,358	26,611	2,663	1,890	21,310
33 VA Polytech Inst & St U	82,734	25,000	4,852	27,820	3,575	18,391	2,046	1,050	0
34 Oregon State University	82,416	9,364	5,123	25,699	1,779	40,011	18	415	7
35 Michigan State University	81,146	5,096	19,658	209	1,921	45,496	1,256	7,457	53
36 Colorado State University	80,451	8,653	7,529	10,630	1,252	42,266	3,044	686	6,391
37 NC State University	79,533	33,161	8,565	6,654	5,157	23,450	470	782	1,294
38 U of MD Baltimore	78,037	0	0	0	0	78,037	0	0	0
39 SUNY Buffalo	76,037	14,129	5,380	310	2,274	48,799	4,223	922	0
40 University of IL Chicago	73,797	5,007	4,840	320	1,753	56,850	2,298	1,350	1,379
Total, 1st 40 institutions	5,713,782	890,294	611,496	471,780	225,374	3,176,097	117,129	170,234	51,378
41 Oregon Health Sciences U	71,054 <i>i</i>	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>	66,743 <i>i</i>	4,311 <i>i</i>	0 <i>i</i>	0 <i>i</i>
42 UT-Houston Hlth Sci Ctr	70,446	0	0	0	0	70,446	0	0	0
43 Rutgers the State U NJ	69,829	11,517	10,537	6,082	8,649	24,892	3,087	5,011	54
44 U of Tennessee System	69,793	12,855	7,175	6,744	3,860	37,064	37	1,538	520
45 U CA Santa Barbara	68,408	26,393	13,868	11,458	6,697	5,262	1,206	3,483	41
46 Louisiana St U, All Camp	67,090	13,535	8,015	5,886	387	37,833	238	1,148	48
47 U CA Irvine	65,902	4,247	12,358	1,539	2,538	41,302	2,273	1,645	0
48 U TX MD Anderson Cnrc	63,074	0	2,583	0	144	60,347	0	0	0
49 University of Kentucky	60,760	9,871	3,422	161	976	41,679	727	1,696	2,228
50 U Med & Dent NJ	59,828	0	0	0	0	59,828	0	0	0
Total, 1st 50 institutions	6,379,966	968,712	669,454	503,650	248,625	3,621,493	129,008	184,755	54,269

See explanatory information and SOURCE at end of table.

**Table B-43. Federally financed R&D expenditures at public universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
51 Wayne State University	57,646	2,613	4,376	0	561	46,472	2,035	1,589	0
52 New Mexico State Univ	56,587	37,487	3,395	4,151	3,665	6,936	363	574	16
53 U TX Hlth Sci Ctr San Ant	55,004	0	0	0	0	55,004	0	0	0
54 Utah State University	54,903	29,337	2,726	6,682	537	13,189	219	1,523	690
55 University of Georgia	54,712	613	2,994	3,683	666	42,412	2,221	2,123	0
56 University of Oklahoma	54,451	3,264	6,079	11,419	267	26,845	3,006	3,571	0
57 U MA Worcester	53,766	0	0	0	0	53,766	0	0	0
58 University of Connecticut	53,189	5,564	2,030	3,689	338	37,120	2,545	1,903	0
59 Iowa State University	51,196	14,229	5,258	914	3,210	20,402	16	6,961	206
60 University of Kansas	50,567	7,674	5,484	2,173	597	28,377	744	332	5,186
Total, 1st 60 institutions	6,921,987	1,069,493	701,796	536,361	258,466	3,952,016	140,157	203,331	60,367
61 Florida State University	50,451	1,966	25,596	9,725	2,513	5,780	2,728	2,143	0
62 U TX Med Br Galveston	48,588	278	0	0	0	48,310	0	0	0
63 Virginia Commonwealth U	48,167	178	1,836	5	1,220	43,479	1,007	442	0
64 U of Missouri Columbia	45,448	4,254	2,075	451	649	31,875	2,426	3,718	0
65 Washington State U	44,510	6,982	3,615	692	378	28,160	254	3,153	1,276
66 U MA Amherst	43,196	5,894	13,750	2,967	7,287	10,256	3,009	33	0
67 U of South Carolina	42,586	10,545	7,236	6,062	2,624	8,925	2,470	2,398	2,326
68 Mississippi State U	42,004	15,833	1,726	2,677	755	17,370	0	1,858	1,785
69 U of Nebraska Lincoln	41,888e	3,771i	4,269i	8,821i	918i	22,279i	333i	1,497i	0i
70 Arizona State University	41,359	12,501	9,996	4,721	1,723	6,371	4,426	1,351	270
Total, 1st 70 institutions	7,370,184	1,131,695	771,895	572,482	276,533	4,174,821	156,810	219,924	66,024
71 Med U of South Carolina	36,473	0	0	0	0	36,473	0	0	0
72 U of South Florida	35,930	6,284	638	10,314	100	14,694	3,259	641	0
73 SUNY Albany	33,894	0	2,276	2,619	248	23,274	1,975	3,502	0
74 University of Delaware	33,688	10,647	6,868	5,596	3,615	3,115	957	2,890	0
75 U of Rhode Island	33,308	2,326	687	18,314	133	6,783	4,490	143	432
76 US Naval Postgrad School	33,308	8,850i	2,087i	8,029i	6,937i	0i	0i	4,564i	2,841i
77 U of Alaska Fairbanks	31,505	630i	7,805i	17,767i	16i	4,841i	0i	446i	0i
78 University of Vermont	31,460	538	538	371	482	27,751	288	0	1,492
79 U CA Santa Cruz	29,849	2,123	8,415	5,515	1,457	5,895	776	5,665	3
80 Temple University	28,793	520	1,046	0	394	21,568	3,151	2,114	0
Total, 1st 80 institutions	7,698,392	1,163,613	802,255	641,007	289,915	4,319,215	171,706	239,889	70,792
81 Clemson University	28,199	8,315	1,805	308	1,275	14,996	34	1,255	211
82 Auburn University	27,706	10,644	2,024	307	335	11,062	772	563	1,999
83 University of Oregon	27,041	1,530	6,034	2,307	2,814	11,903	1,552	901	0
84 Kansas State University	27,001	5,110	5,819	133	511	13,771	264	984	409
85 U of New Hampshire	25,913	1,409	1,272	15,315	412	4,104	1,624	1,777	0
86 West Virginia University	24,985	9,472	1,922	1,021	637	10,774	253	90	816
87 Montana St U Bozeman	23,982	3,225	5,355	563	544	12,094	0	1,401	800
88 U of Alabama Huntsville	23,772	7,260	4,940	4,165	4,631	496	0	2	2,278
89 Oklahoma State University	23,220	5,604	2,846	200	2,382	9,232	278	1,508	1,170
90 U CA Riverside	22,988	2,493	5,346	3,200	275	9,251	2,171	252	0
Total, 1st 90 institutions	7,953,199	1,218,675	839,618	668,526	303,731	4,416,898	178,654	248,622	78,475

See explanatory information and SOURCE at end of table.

**Table B-43. Federally financed R&D expenditures at public universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total	Engi-neering	Physical sciences	Environ-mental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
91 University of Houston	22,018	7,783	4,051	136	2,237	4,963	2,090	756	2
92 U PR Mayaguez	21,903	3,174	1,404	3,051	289	13,985	0	0	0
93 U Arkansas Medical Sci	21,857	0	0	0	0	21,857	0	0	0
94 NJ Inst of Technology	21,127	11,162	1,958	4,014	1,636	0	0	78	2,279
95 U of Nevada Reno	20,383	1,804	1,752	2,650	94	12,327	599	662	495
96 San Diego St University	19,721	2,264	975	1,117	196	11,024	2,761	320	1,064
97 University of Idaho	18,352	1,413	627	2,451	204	13,446	177	34	0
98 SUNY Hlth Sci Ctr Brklyn	18,318	0	0	0	0	18,318	0	0	0
99 University of Wyoming	17,806	1,277	2,350	4,453	418	8,552	262	139	355
100 Texas Tech University	17,481	6,628	1,658	334	977	5,207	39	1,972	666
Total, 1st 100 institutions	8,152,165	1,254,180	854,393	686,732	309,782	4,526,577	184,582	252,583	83,336
Total, all other sampled insts	864,302	183,361	127,669	93,406	40,519	322,798	29,977	50,657	15,915

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-44. R&D expenditures at private universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
Total, all institutions	8,344,246	1,198,830	889,524	339,867	459,459	4,942,158	110,778	257,656	145,974
1 Johns Hopkins U	853,620	216,973	131,662	43,528	102,284	332,458	3,484	3,688	19,543
2 MA Institute of Tech	413,098	178,664	100,899	15,900	17,059	42,744	0	11,627	46,205
3 Stanford University	410,309	116,364	58,555	8,025	22,439	195,377	3,834	5,715	0
4 Cornell University	363,511	44,687	60,854	4,101	21,757	215,404	5,642	11,066	0
5 U of Pennsylvania	333,477	12,785	24,546	474	8,954	266,318	3,111	17,289	0
6 Harvard University	306,100	6,433	27,527	13,271	2,739	195,472	3,854	39,501	17,303
7 Duke University	282,388	13,710	15,187	7,554	2,662	227,796	4,472	11,007	0
8 Washington University	269,550	9,391	8,942	3,420	9,227	234,810	964	2,545	251
9 U of Southern California	268,806	38,686	11,068	14,202	51,936	141,502	3,483	6,404	1,525
10 Columbia University	267,007	14,901	24,154	43,154	5,027	170,957	2,932	5,882	0
Total, 1st 10 institutions	3,767,866	652,594	463,394	153,629	244,084	2,022,838	31,776	114,724	84,827
11 Yale University	262,680	7,913	17,397	2,138	4,437	225,403	3,089	2,303	0
12 Northwestern University	223,235	42,636	15,888	579	4,209	133,916	1,962	5,993	18,052
13 Baylor Col of Medicine	216,528	0	0	0	0	216,528	0	0	0
14 California Inst of Tech	185,066	35,630	86,036	18,285	11,357	32,425	0	1,333	0
15 Case Western Reserve U	176,330	28,340	8,183	293	227	133,979	600	4,708	0
16 University of Rochester	174,617	38,158	13,815	639	2,829	111,899	6,649	624	4
17 Emory University	172,884	0	5,989	0	908	163,709	1,383	895	0
18 New York University	156,452	0	6,919	905	12,134	124,351	5,455	5,798	890
19 University of Chicago	151,635	0	29,352	7,742	2,177	103,348	1,887	6,949	180
20 Carnegie Mellon U	137,450	34,363	8,485	2,008	62,466	13,594	6,382	8,416	1,736
Total, 1st 20 institutions	5,624,743	839,634	655,458	186,218	344,828	3,281,990	59,183	151,743	105,689
21 University of Miami	136,972	1,815	2,132	31,067	331	92,385	5,276	3,934	32
22 Vanderbilt University	135,214	7,529	10,725	271	765	109,534	2,011	4,379	0
23 Boston University	130,054	14,969	12,897	3,473	3,782	83,544	2,271	1,110	8,008
24 Georgetown University	116,611	0	5,124	235	139	106,347	70	4,663	33
25 Princeton University	115,996	35,805	28,114	8,816	6,284	17,843	5,978	13,156	0
26 The Rockefeller Univ	115,494	0	6,768	0	2,234	106,492	0	0	0
27 Mt Sinai Sch Med	109,448	0	0	0	0	109,448	0	0	0
28 Yeshiva University	99,000	0	0	0	0	99,000	0	0	0
29 Allegheny U of Hlth Sci	95,984	0	0	0	0	95,984	0	0	0
30 Tufts University	92,130	5,935	4,037	73	783	73,437	2,168	5,697	0
Total, 1st 30 institutions	6,771,646	905,687	725,255	230,153	359,146	4,176,004	76,957	184,682	113,762
31 Tulane University	87,858	5,766	3,075	246	498	72,246	93	783	5,151
32 Wake Forest University	76,893	0	669	0	185	75,987	0	0	52
33 Woods Hole Oceanograph	75,011	12,016	0	62,995	0	0	0	0	0
34 George Washington U	74,481	9,708	1,082	114	13,787	26,872	867	7,303	14,748
35 Brown University	73,977	9,568	8,005	5,372	12,648	30,976	2,514	4,894	0
36 Thomas Jefferson U	69,460	0	0	0	0	69,460	0	0	0
37 Dartmouth College	64,964	7,133	3,532	630	1,394	49,978	1,132	657	508
38 Medical Col of Wisconsin	56,021	0	0	0	0	56,021	0	0	0
39 Rush University	55,277	0	0	0	0	52,378	2,899	0	0
40 University of Dayton	45,000	41,418	2,524	103	448	281	20	25	181
Total, 1st 40 institutions	7,450,588	991,296	744,142	299,613	388,106	4,610,203	84,482	198,344	134,402
41 Brandeis University	44,589	0	4,248	0	1,225	20,304	1,483	17,329	0
42 Rice University	41,067	6,800	9,187	7,585	12,667	4,440	235	153	0
43 Rensselaer Polytech Inst	38,560	23,963	6,779	1,363	3,330	2,751	0	217	157
44 Tuskegee University	37,354	9,831	2,138	0	0	23,863	0	1,522	0
45 Syracuse University	37,322	8,927	5,975	1,120	11,181	4,479	1,798	2,613	1,229
46 Loyola U of Chicago	34,241	0	971	36	321	28,980	709	2,507	717
47 Clark Atlanta University	29,637	5,120	5,427	8,187	4,460	5,445	0	998	0
48 University of Notre Dame	28,873	8,517	13,158	0	1,834	4,321	781	262	0
49 Saint Louis University	26,943	11	0	713	2	26,000	25	17	175
50 Northeastern University	26,385	11,274	6,158	0	1,572	5,401	900	1,080	0
Total, 1st 50 institutions	7,795,559	1,065,739	798,183	318,617	424,698	4,736,187	90,413	225,042	136,680

See explanatory information and SOURCE at end of table.

**Table B-44. R&D expenditures at private universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
51 Lehigh University	26,115	20,354	3,357	1,279	264	625	165	71	0
52 Howard University	23,673	4,010	3,678	59	1,679	13,119	52	1,068	8
53 Eastern VA Med School	21,672	0	0	0	0	21,672	0	0	0
54 Oregon Grad Inst Sci Tech	21,047e	3,990e	3,020e	4,964e	9,073e	0	0	0	0
55 Drexel University	19,603	12,867	1,332	804	1,676	273	0	2,651	0
56 New York Medical College	19,159	0	0	0	0	19,159	0	0	0
57 Boston College	17,774	0	4,410	658	8,017	2,161	417	2,111	0
58 C R Drew U of Med & Sci	17,205e	0e	0e	0e	0e	17,205e	0e	0e	0e
59 Inst Paper Sci and Tech	15,424e	8,075e	5,933e	0e	0e	1,416e	0e	0e	0e
60 Creighton University	15,011	0	156	30	0	14,758	24	43	0
Total, 1st 60 institutions	7,992,242	1,115,035	820,069	326,411	445,407	4,826,575	91,071	230,986	136,688
61 Mercer University	14,995	11,561	1,274	0	55	2,091	5	9	0
62 Illinois Inst of Tech	14,013	5,495	5,028	0	310	3,121	59	0	0
63 Morehouse School of Med	13,614	0	0	0	0	13,213	0	0	401
64 Stevens Inst of Tech	12,944	7,012	1,997	1,127	53	0	0	2,755	0
65 Loma Linda University	12,788	0	0	0	0	12,788	0	0	0
66 Brigham Young University	11,963	5,331	2,229	128	696	1,766	259	1,554	0
67 Meharry Medical College	11,212e	0	0	673e	0	10,539e	0	0	0
68 University of Denver	10,589	2,258	3,763	0	187	623	1,699	2,059	0
69 Worcester Polytech Inst	9,637	6,662	1,282	0	1,053	534	0	106	0
70 Catholic U of America	9,418	1,285	5,094	0	0	1,080	1,444	487	28
Total, 1st 70 institutions	8,113,415	1,154,639	840,736	328,339	447,761	4,872,330	94,537	237,956	137,117
71 Albany Medical College	8,236	0	0	0	0	8,236	0	0	0
72 University of Tulsa	8,235	4,854	1,577	437	497	741	105	24	0
73 Rochester Inst of Tech	8,133e	1,287	3,996	1,423	0	1,296	0	0	131
74 Southern Methodist U	7,964	1,907	1,158	1,837	1,021	1,133	141	324	443
75 Hampton University	7,140	638	4,942	1,089	403	68	0	0	0
76 Teachers Col, Columbia U	6,775	0	0	0	333	387	2,145	3,910	0
77 Marquette University	6,763	2,518	1,133	0	588	1,917	0	607	0
78 Finch U Hlth Sci Chicago	6,672e	0	0	0	0	6,264e	408e	0	0
79 Polytechnic University	6,373	4,067i	1,675i	0i	631i	0i	0i	0i	0i
80 Clarkson University	6,345	4,541	1,374	0	145	162	123	0	0
Total, 1st 80 institutions	8,186,051	1,174,451	856,591	333,125	451,379	4,892,534	97,459	242,821	137,691
81 Florida Inst of Tech	5,848	2,372	782	1,081	643	647	323	0	0
82 Xavier University of LA	5,388	0	205	0	0	276	0	0	4,907
83 Alfred University	5,275	5,275	0	0	0	0	0	0	0
84 Wesleyan University	5,146	0	2,155	318	97	1,755	637	184	0
85 Wellesley College	4,943e	0e	972e	0e	225e	2,696e	0e	1,050e	0e
86 Villanova University	4,714	2,616i	813i	0i	66i	761i	260i	198i	0i
87 Johnson C Smith U	4,299	150	4,000	0	75	0	0	74	0
88 Bryn Mawr College	4,231	0	590	511	340	1,196	233	1,361	0
89 New School University	3,705	0	0	0	0	162	256	3,287	0
90 American University	3,453	0	967	0	283	1,279	151	773	0
Total, 1st 90 institutions	8,233,053	1,184,864	867,075	335,035	453,108	4,901,306	99,319	249,748	142,598

See explanatory information and SOURCE at end of table.

**Table B-44. R&D expenditures at private universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
91 Texas Christian U	3,125	111	671	46	2	49	2,225	21	0
92 Hampshire College	2,972	714	483	93	364	375	148	795	0
93 Ponce School of Medicine	2,953 i	0 i	0 i	0 i	0 i	2,953 i	0 i	0 i	0 i
94 Fisk University	2,909	0	2,810	0	0	99	0	0	0
95 Institute of Textile Tech	2,776	1,855	560	0	361	0	0	0	0
96 Embry-Riddle Aero Univ	2,647	325	160	356	54	0	0	0	1,752
97 U Ctrl Del Caribe Esc Med	2,588 i	0 i	0 i	0 i	0 i	2,588 i	0 i	0 i	0 i
98 Seton Hall University	2,400	0	716	0	0	1,684	0	0	0
99 Baylor Col of Dentistry	2,359	0	0	0	0	2,359	0	0	0
100 Fordham University	2,247	0	68	103	173	936	33	934	0
Total, 1st 100 institutions	8,260,029	1,187,869	872,543	335,633	454,062	4,912,349	101,725	251,498	144,350
Total, all other sampled insts	84,217	10,961	16,981	4,234	5,397	29,809	9,053	6,158	1,624

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-45. Federally financed R&D expenditures at private universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total	Engi-neering	Physical sciences	Envir-onmental sciences	Math & computer sciences	Life sciences	Psy-chology	Social sciences	Other sciences
Total, all institutions	6,060,104	911,722	753,179	287,998	379,984	3,450,584	82,470	115,099	79,068
1 Johns Hopkins U	752,983	212,747	129,077	42,063	101,611	259,454	3,371	1,924	2,736
2 Stanford University	342,426	102,752	54,226	5,920	20,074	155,050	3,418	986	0
3 MA Institute of Tech	310,741	127,064	88,749	14,147	13,669	33,826	0	5,922	27,364
4 Harvard University	251,876	5,816	26,770	12,839	2,608	163,991	3,422	21,225	15,205
5 U of Pennsylvania	247,914	10,123	23,326	106	6,636	198,815	2,937	5,971	0
6 Columbia University	229,723	11,438	21,098	40,462	4,682	144,577	2,818	4,648	0
7 Yale University	205,046	6,240	15,267	1,840	3,987	174,414	2,401	897	0
8 Cornell University	204,187	28,416	42,519	2,170	15,742	110,388	2,103	2,849	0
9 U of Southern California	190,547	30,530	8,799	10,277	42,507	91,664	3,140	3,042	588
10 Washington University	187,173	6,515	6,770	2,594	6,431	161,884	887	2,092	0
Total, 1st 10 institutions	2,922,616	541,641	416,601	132,418	217,947	1,494,063	24,497	49,556	45,893
11 California Inst of Tech	177,748	31,536	85,615	16,912	11,233	31,416	0	1,036	0
12 Duke University	172,532	10,155	12,906	3,235	1,920	132,886	4,031	7,399	0
13 Case Western Reserve U	132,274	18,166	5,044	268	154	106,938	529	1,175	0
14 University of Rochester	130,773	34,243	12,645	569	2,719	76,928	3,323	346	0
15 Northwestern University	127,911	27,047	10,954	477	2,693	78,649	1,522	2,699	3,870
16 University of Chicago	125,982	0	26,486	6,420	1,793	87,762	1,225	2,296	0
17 Emory University	118,045	0	4,701	0	619	111,682	805	238	0
18 Baylor Col of Medicine	110,610	0	0	0	0	110,610	0	0	0
19 Vanderbilt University	106,325	4,669	9,043	188	598	86,936	1,644	3,247	0
20 Boston University	104,428	10,610	10,550	2,560	3,505	67,475	1,800	766	7,162
Total, 1st 20 institutions	4,229,244	678,067	594,545	163,047	243,181	2,385,345	39,376	68,758	56,925
21 University of Miami	101,492	1,194	1,988	27,452	270	62,022	5,055	3,511	0
22 New York University	101,426	0	3,557	199	9,462	81,747	4,251	1,738	472
23 Carnegie Mellon U	95,046	23,142	5,728	246	48,264	6,926	4,134	5,698	908
24 Georgetown University	84,801	0	3,364	235	72	79,223	70	1,837	0
25 Yeshiva University	80,000	0	0	0	0	80,000	0	0	0
26 Mt Sinai Sch Med	69,995	0	0	0	0	69,995	0	0	0
27 Princeton University	69,005	20,707	19,863	5,815	3,664	11,424	5,086	2,446	0
28 Woods Hole Oceanograph	64,765	9,096	0	55,669	0	0	0	0	0
29 Tufts University	61,167	3,788	3,079	60	630	51,225	1,300	1,085	0
30 Allegheny U of Hlth Sci	61,102	0	0	0	0	61,102	0	0	0
Total, 1st 30 institutions	5,018,043	735,994	632,124	252,723	305,543	2,889,009	59,272	85,073	58,305
31 Wake Forest University	56,705	0	473	0	185	56,023	0	0	24
32 Tulane University	52,924	3,130	1,759	90	429	44,002	61	228	3,225
33 Thomas Jefferson U	51,728	0	0	0	0	51,728	0	0	0
34 George Washington U	45,072	6,894	858	73	11,779	13,989	485	1,600	9,394
35 Dartmouth College	45,053	5,088	2,800	351	878	34,859	500	365	212
36 Brown University	44,412	5,958	4,117	3,718	8,137	19,938	1,600	944	0
37 The Rockefeller Univ	43,845	0	4,171	0	567	39,107	0	0	0
38 Medical Col of Wisconsin	43,831	0	0	0	0	43,831	0	0	0
39 University of Dayton	36,329	34,141	1,609	95	321	155	8	0	0
40 Rice University	34,772	4,263	7,225	7,285	12,072	3,539	235	153	0
Total, 1st 40 institutions	5,472,714	795,468	655,136	264,335	339,911	3,196,180	62,161	88,363	71,160
41 Syracuse University	29,200	8,570	5,954	669	6,609	3,623	701	1,994	1,080
42 Rush University	28,444	0	0	0	0	27,465	979	0	0
43 Brandeis University	28,098	0	3,432	0	1,157	14,762	1,272	7,475	0
44 Tuskegee University	26,894	7,102	1,158	0	0	17,524	0	1,110	0
45 Clark Atlanta University	24,079	4,314	4,562	6,637	2,793	5,095	0	678	0
46 Saint Louis University	23,341	11	0	698	2	22,595	18	17	0
47 University of Notre Dame	23,053	6,385	11,410	0	1,727	2,792	603	136	0
48 Rensselaer Polytech Inst	21,774	11,925	4,579	842	2,775	1,315	0	204	134
49 Howard University	21,501	3,396	3,519	59	1,559	12,066	52	850	0
50 Northeastern University	21,454	8,960	5,474	0	1,420	4,253	818	529	0
Total, 1st 50 institutions	5,720,552	846,131	695,224	273,240	357,953	3,307,670	66,604	101,356	72,374

See explanatory information and SOURCE at end of table.

**Table B-45. Federally financed R&D expenditures at private universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
51 Loyola U of Chicago	17,685	0	665	2	168	15,676	502	622	50
52 C R Drew U of Med & Sci	16,052e	0e	0e	0e	0e	16,052	0e	0e	0e
53 Oregon Grad Inst Sci Tech	14,996e	1,505e	2,697e	3,997e	6,797e	0	0	0	0
54 New York Medical College	13,639	0	0	0	0	13,639	0	0	0
55 Lehigh University	13,019	8,842	2,289	1,155	95	481	157	0	0
56 Boston College	12,778	0	3,420	529	6,393	1,564	308	564	0
57 Morehouse School of Med	12,461	0	0	0	0	12,060	0	0	401
58 Mercer University	12,043	11,140	388	0	0	515	0	0	0
59 Meharry Medical College	11,004e	0	0	673e	0	10,331e	0	0	0
60 Drexel University	10,929	8,025	1,123	601	451	139	0	590	0
Total, 1st 60 institutions	5,855,158	875,643	705,806	280,197	371,857	3,378,127	67,571	103,132	72,825
61 Illinois Inst of Tech	9,946	4,003	2,751	0	230	2,936	26	0	0
62 Brigham Young University	9,694	4,129	1,904	124	283	1,623	94	1,537	0
63 Eastern VA Med School	9,449	0	0	0	0	9,449	0	0	0
64 University of Denver	9,385	2,013	3,101	0	123	509	1,627	2,012	0
65 Loma Linda University	7,834	0	0	0	0	7,834	0	0	0
66 Catholic U of America	7,161	1,101	3,865	0	0	700	1,396	71	28
67 Hampton University	6,801	638	4,603	1,089	403	68	0	0	0
68 Stevens Inst of Tech	6,667	3,887	925	161	0	0	0	1,694	0
69 Albany Medical College	6,545	0	0	0	0	6,545	0	0	0
70 Xavier University of LA	5,355	0	205	0	0	276	0	0	4,874
Total, 1st 70 institutions	5,933,995	891,414	723,160	281,571	372,896	3,408,067	70,714	108,446	77,727
71 Worcester Polytech Inst	5,230	3,552	532	0	628	433	0	85	0
72 Finch U Hlth Sci Chicago	5,022e	0	0	0	0	4,619e	403e	0	0
73 Southern Methodist U	4,836	796	506	1,726	508	1,014	105	181	0
74 Johnson C Smith U	4,299	150	4,000	0	75	0	0	74	0
75 Creighton University	4,096	0	155	30	0	3,885	24	2	0
76 University of Tulsa	4,002	1,638	1,232	359	330	355	88	0	0
77 Inst Paper Sci and Tech	3,746e	1,269e	2,477e	0	0	0	0	0	0
78 Wesleyan University	3,570	0	1,565	143	9	1,250	485	118	0
79 Marquette University	3,510	642	745	0	384	1,604	0	135	0
80 American University	3,163	0	949	0	243	1,275	108	588	0
Total, 1st 80 institutions	5,975,469	899,461	735,321	283,829	375,073	3,422,502	71,927	109,629	77,727
81 Clarkson University	3,010	2,185	420	0	137	145	123	0	0
82 Fisk University	2,909	0	2,810	0	0	99	0	0	0
83 Teachers Col, Columbia U	2,900	0	0	0	0	197	1,490	1,213	0
84 Polytechnic University	2,843	1,589i	1,063i	0i	191i	0i	0i	0i	0i
85 Ponce School of Medicine	2,757i	0i	0i	0i	0i	2,757i	0i	0i	0i
86 Texas Christian U	2,493	13	210	42	0	7	2,221	0	0
87 Rochester Inst of Tech	2,339e	543	1,035	88	0	665	0	0	8
88 Wellesley College	2,304e	0e	455e	0e	103e	1,287e	0e	459e	0e
89 U Ctrl Del Caribe Esc Med	2,191i	0i	0i	0i	0i	2,191i	0i	0i	0i
90 Florida Inst of Tech	2,152	723	504	443	124	357	1	0	0
Total, 1st 90 institutions	6,001,367	904,514	741,818	284,402	375,628	3,430,207	75,762	111,301	77,735

See explanatory information and SOURCE at end of table.

**Table B-45. Federally financed R&D expenditures at private universities and colleges,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
91 Gallaudet University	2,119	0	0	0	0	83	755	1,281	0
92 Spelman College	1,700	0	763	0	0	886	51	0	0
93 Clark University	1,660	695	583	0	33	178	124	47	0
94 Villanova University	1,555i	626i	426i	0i	66i	224i	213i	0i	0i
95 Occidental College	1,513e	370i	173i	4i	64i	839i	10i	53i	0i
96 Nova Southeastern U	1,500	0	0	691	0	8	791	10	0
97 Embry-Riddle Aero Univ	1,432	183	71	332	54	0	0	0	792
98 Le Moyne-Owen Coll	1,404	0	0	0	1,200	141	0	63	0
99 Alfred University	1,348	1,348	0	0	0	0	0	0	0
100 Baylor Col of Dentistry	1,337	0	0	0	0	1,337	0	0	0
Total, 1st 100 institutions	6,016,935	907,736	743,834	285,429	377,045	3,433,903	77,706	112,755	78,527
Total, all other sampled insts	43,169	3,986	9,345	2,569	2,939	16,681	4,764	2,344	541

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-46. Total and federally financed R&D expenditures at historically black colleges and universities: fiscal years 1995-1998

[Dollars in thousands]

Page 1 of 2

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	292,481	290,369	263,519	241,434	247,399	254,329	222,321	199,335
1 Tuskegee University	37,354	33,046	9,061	7,446	26,894	29,930	8,231	7,200
2 Clark Atlanta University	29,637	28,893	34,566	25,245	24,079	25,943	25,345	15,821
3 Howard University	23,673	27,873	28,894	24,819	21,501	25,884	26,253	21,137
4 Florida A&M University	19,066	25,415	22,474	20,797	15,726	22,547	20,118	19,430
5 NC A&T State University	14,816	15,817	15,991	15,774	12,924	13,362	12,521	12,501
6 Alabama A&M University	14,143	9,813e	9,615i	9,417	10,518	8,423e	8,249i	8,075
7 Morehouse School of Med	13,614	13,218	13,206	7,896	12,461	12,099	11,747	6,996
8 Meharry Medical College	11,212e	11,212e	11,212	10,738	11,004e	11,004e	11,004	10,208
9 Prairie View A&M U	9,952	9,768	10,621	8,019	9,612	9,315	10,325	6,284
10 Tennessee State U	9,329	8,629	9,137	7,431	7,978	7,569	7,983	6,478
Total, 1st 10 institutions	182,796	183,684	164,777	137,582	152,697	166,076	141,776	114,130
11 Southern U A&M All Camp ...	9,063	10,249	10,748	9,639	6,983	7,774	7,724	7,480
12 Hampton University	7,140	8,002	3,854	6,344	6,801	7,777	3,854	6,130
13 Jackson State University	6,111	5,135	5,224	4,960i	5,326	3,960	4,702	4,461i
14 Xavier University of LA	5,388	5,527	5,188	10,048	5,355	5,473	5,106	8,979
15 Alcorn State University	5,119	4,243i	3,368	3,233i	5,119	4,242i	3,365	3,202i
16 U of the Virgin Islands	4,828e	4,828e	4,828	3,811i	2,428e	2,428e	2,428	2,040i
17 Bowie State University	4,511	2,672	49	173	4,403	2,672	49	93
18 Johnson C Smith U	4,299	1,546	1,307	1,307	4,299	1,546	1,083	1,083
19 U Arkansas Pine Bluff	4,151	3,974	3,424	4,780	2,911	2,838	2,747	3,661
20 Morgan State University	3,981	3,873i	3,768i	3,663i	3,960	3,825i	3,691i	3,557i
Total, 1st 20 institutions	237,387	233,733	206,535	185,540	200,282	208,611	176,525	154,816
21 Virginia State University	3,338	3,988	3,270	3,134	2,792	3,453	2,735	2,599
22 Lincoln University	3,313	2,899	2,970	2,934	2,438i	2,584	2,681	2,702
23 University of DC	3,074	3,244e	3,244	3,227i	1,898	1,756e	1,756	1,784i
24 Fort Valley State U	2,989	2,863	2,474	3,009	2,359	2,471	2,338	2,936
25 Fisk University	2,909	1,969e	1,969	1,800i	2,909	1,969e	1,969	1,741i
26 South Carolina State U	2,885	2,855	3,000	4,091i	1,968	1,948	1,910	2,325i
27 Delaware State University	2,883	1,947	2,071	1,036	2,734	1,833	1,787	999
28 Texas Southern U	2,690	3,867	3,820	4,173	2,504	3,707	3,474	3,474
29 Norfolk State University	2,524	1,401	2,239	1,273	2,442	1,388	2,187	1,256
30 Winston Salem State U	2,468	2,034	1,406	1,123	1,898	1,874	1,246	797
Total, 1st 30 institutions	266,460	260,800	232,998	211,340	224,224	231,594	198,608	175,429
31 U MD Eastern Shore	2,265	2,187	1,980	1,880	2,265	2,187	1,980	1,880
32 Langston University	2,031	1,828	2,521	3,187	2,031	1,828	2,521	2,661
33 Grambling State U'	1,997	2,634	1,455	204	1,936	2,630	1,450	145
34 Spelman College	1,744	2,553	1,084	1,435	1,700	1,282	988	1,277
35 Central State University	1,497	1,786e	1,786	1,789i	1,144	1,153i	1,162i	1,171i
36 Le Moyne-Owen Coll	1,451	--	--	--	1,404	--	--	--
37 Claflin College	1,403	1,254	764	540	1,028	1,074	474	290
38 Tougaloo College	1,180	1,815	1,710i	1,606i	657	929	867i	806i
39 Alabama State University	1,177	818	1,000	1,000	1,133	787	970	970
40 Albany State University	1,019	3,687e	3,687e	3,687i	1,019	675e	675e	675i
Total, 1st 40 institutions	282,224	279,362	248,985	226,668	238,541	244,139	209,695	185,304
41 North Carolina Central U	869	869e	863i	835	819i	868i	863i	813
42 Oakwood College	845	718	371	300	690	716	371	300
43 Lincoln University (PA)	821	1,032	1,135	818i	520	949	1,135	818i
44 Bennett College	811	93e	93	112	583	93e	93i	111
45 Kentucky State University	713	2,139	2,773	2,920	703	2,139	2,761	2,920
46 Elizabeth City State U	684	1,379	1,098	758i	575	1,146	753	497i
47 Virginia Union University	671	--	--	--	537	--	--	--
48 Benedict College	634i	634e	634	850	552i	552i	552i	740i
49 Morehouse College	592e	592e	592	1,074	591e	591e	591	793
50 Bethune Cookman College	566	606	451	0	566	472	333	0
Total, 1st 50 institutions	289,430	287,424	256,995	234,335	244,677	251,665	217,147	192,296

See explanatory information and SOURCE at end of table.

Table B-46. Total and federally financed R&D expenditures at historically black colleges and universities: fiscal years 1995-1998

[Dollars in thousands]

Page 2 of 2

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 Morris Brown College	525e	525	3,652	3,796	525e	525	2,422	3,796
52 Fayetteville State U	485	139	503	470i	378	139	503i	470i
53 Mississippi Valley St U	350	563	586	471	350	563	586	471
54 Savannah State Univ	331	316	317	214	298i	316	317	214
55 Rust College	317	0	0	332	317	0	0	332
56 Wilberforce University	280e	280	323	384	236e	236	323	384
57 Selma University	210e	210	250	495i	210e	210	250	495i
58 Dillard University	175e	175	314	145	164e	164	314	145
59 West Virginia State Col	119	256	10	40	0	196	10	40
60 Shaw University	110	147	115	56	110	122	115	56
Total, 1st 60 institutions	292,332	290,035	263,065	240,738	247,265	254,136	221,987	198,699
61 Philander Smith College	73e	73	73	145	73e	73	73	145
62 Jarvis Christian College	55	83	102	219	55	83	102	219
63 Bluefield State College	15	--	--	--	0	--	--	--
64 Coppin State College	6	15	116	208	6	15	116	208
65 Knoxville College	0	163e	163	124i	0	22i	43i	64i
66 Talladega College	0e	0	0	0	0i	0	0	0
67 Trenholm State Tech Col	0	0	0	0	0	0	0	0
68 Wiley College	0	--	--	--	0	--	--	--
Total, 1st 68 institutions	292,481	290,369	263,519	241,434	247,399	254,329	222,321	199,335

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-47. Total and federally financed R&D expenditures in engineering
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	4,053,742	3,830,671	3,699,347	3,507,976	2,349,263	2,275,084	2,229,901	2,099,556
1 Johns Hopkins U	216,973	204,860	213,465	209,366	212,747	200,568	209,128	206,060
2 MA Institute of Tech	178,664	166,049	164,816	160,611	127,064	125,617	112,703	113,927
3 Georgia Institute of Tech	165,472	164,359	149,412	140,523	72,542	76,996	76,917	69,569
4 Pennsylvania State U	142,907	130,431	138,718	136,995	85,368	79,149	90,452	89,864
5 Stanford University	116,364	116,322	101,741	89,844	102,752	104,139	89,558	80,298
6 University of Michigan	109,219	113,193	108,668	92,186	68,083	67,125	65,291	58,002
7 Texas A&M University	108,306	96,936	97,848	83,880	27,986	31,835	32,278	23,695
8 U CA Berkeley	99,697	80,735	69,000	64,715	47,896	42,800	35,130	32,525
9 U of Illinois Urbana	90,994	63,113	61,712	54,562	54,008	38,292	35,736	33,573
10 U TX Austin	81,547	108,658	101,222	93,454	46,499	73,615	65,877	61,159
Total, 1st 10 institutions	1,310,143	1,244,656	1,206,602	1,126,136	844,945	840,136	813,070	768,672
11 NC State University	80,278	70,033	61,709	60,013	33,161	26,624	27,946	26,051
12 Ohio State University	70,275	65,260	61,403	56,916	18,760	18,521	18,412	18,951
13 Purdue University	68,096	65,009	62,490	58,841	34,899	34,032	32,428	31,002
14 U MD College Park	67,267	67,188	65,537	60,953	38,734	33,368	33,374	30,634
15 U WI Madison	56,512	55,671	53,094	54,148	34,042	34,233	32,616	33,804
16 VA Polytech Inst & St U	48,844	49,254	39,562	39,756	25,000	27,629	22,086	20,354
17 University of Florida	48,621	38,296	32,000	27,260	21,735	17,426	16,988	14,586
18 New Mexico State Univ	46,187	47,136	42,742	44,808	37,487	39,249	36,132	37,043
19 U CA San Diego	46,172	33,185	31,373	25,754	27,155	23,010	23,959	19,417
20 Cornell University	44,687	44,522	44,724	41,879	28,416	27,116	29,517	26,905
Total, 1st 20 institutions	1,887,082	1,780,210	1,701,236	1,596,464	1,144,334	1,121,344	1,086,528	1,027,419
21 U CA Los Angeles	42,967	34,442	28,509	30,813	27,871	25,700	21,352	23,341
22 Northwestern University	42,636	30,502	28,402	23,729	27,047	17,076	17,925	14,785
23 University of Arizona	42,394	22,777	20,896	21,270	24,232	12,231	12,466	12,440
24 University of Dayton	41,418	40,719	37,150	42,103	34,141	33,438	30,375	35,217
25 Iowa State University	40,370	41,721	42,150	46,554	14,229	17,942	19,036	20,559
26 U of Southern California	38,686	42,701	36,933	32,647	30,530	32,964	30,032	26,625
27 University of Rochester	38,158	36,633	31,104	40,136	34,243	31,597	27,679	36,001
28 University of Minnesota	37,595	38,689	34,080	32,423	24,122	24,508	21,388	20,618
29 Princeton University	35,805	35,120	36,447	30,996	20,707	21,719	22,847	19,173
30 California Inst of Tech	35,630	32,158	29,238	24,135	31,536	29,158	26,507	21,789
Total, 1st 30 institutions	2,282,741	2,135,672	2,026,145	1,921,270	1,412,992	1,367,677	1,316,135	1,257,967
31 Louisiana St U, All Camp	35,605	36,918	34,767	29,619	13,535	13,844	12,889	9,809
32 U CA Santa Barbara	34,977	36,287	37,759	31,935	26,393	29,200	32,039	27,030
33 Carnegie Mellon U	34,363	30,575	32,827	30,245	23,142	20,330	19,500	17,493
34 U of Washington	34,277	32,716	31,787	31,913	21,927	20,333	17,843	16,805
35 Utah State University	33,933	25,469	24,219	28,922	29,337	18,843	17,793	24,106
36 Arizona State University	32,745	27,720	28,147	25,788	12,501	10,755	9,826	7,399
37 University of Colorado	28,935	31,608	30,788	30,082	16,824	17,669	16,142	15,037
38 Case Western Reserve U	28,340	28,436	25,625	23,779	18,166	19,105	16,825	15,191
39 U of Tennessee System	27,827	31,024	27,444	26,543	12,855	13,301	11,854	12,152
40 U CA Davis	27,726	17,871	17,349	16,143	10,377	8,269	8,187	7,206
Total, 1st 40 institutions	2,601,469	2,434,296	2,316,857	2,196,239	1,598,049	1,539,326	1,479,033	1,410,195
41 SUNY Buffalo	27,690	22,156	23,367	23,703	14,129	13,538	15,074	9,384
42 University of New Mexico	27,243	30,964	36,001	34,714	20,093	22,742	23,927	24,090
43 Clemson University	26,584	26,549	26,066	25,497	8,315	8,876	8,636	8,839
44 Rutgers the State U NJ	25,908	21,065	24,686	26,991	11,517	10,772	11,645	12,182
45 University of Kentucky	25,174	21,118	19,565	18,170	9,871	10,408	7,283	6,383
46 University of Connecticut	24,166	34,110	34,200	32,582	5,564	5,971	7,253	6,209
47 Rensselaer Polytech Inst	23,963	27,369 <i>i</i>	26,694	25,584	11,925	15,900 <i>i</i>	17,267	16,512
48 University of Delaware	23,408	22,717	17,369	14,916	10,647	10,574	9,468	7,416
49 Mississippi State U	22,862	17,868	18,056	17,824	15,833	13,863	13,058	12,773
50 University of Virginia	22,311	19,678	19,355	22,155	14,508	13,103	13,284	14,468
Total, 1st 50 institutions	2,850,778	2,677,890	2,562,216	2,438,375	1,720,451	1,665,073	1,605,928	1,528,451

See explanatory information and SOURCE at end of table.

**Table B-47. Total and federally financed R&D expenditures in engineering
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 U of Iowa	21,888	18,169	19,965	19,198	8,642	7,118	8,885	9,890
52 University of Cincinnati	21,569	18,705	17,898	18,431	11,992	10,894	10,952	10,951
53 Lehigh University	20,354	20,065	27,915	27,234	8,842	10,204	17,526	16,392
54 U of Nebraska Lincoln	20,029 <i>i</i>	19,732	15,424	18,169	3,771 <i>i</i>	3,715	3,295	4,838
55 NJ Inst of Technology	19,714	19,510	17,937	13,359	11,162	12,138	11,203	7,455
56 University of Utah	19,174	18,968	18,482	15,282	12,197	12,338	12,866	9,937
57 University of Houston	19,097	23,311	25,212	22,885	7,783	8,718	11,920	9,647
58 West Virginia University	18,923	14,102	13,042	12,441	9,472	7,636	7,986	7,615
59 Colorado State University	17,998	16,207	17,406	17,364	8,653	8,267	7,940	8,072
60 Michigan State University	17,837	18,764	17,733	17,278	5,096	5,987	5,254	6,007
Total, 1st 60 institutions	3,047,361	2,865,423	2,753,230	2,620,016	1,808,061	1,752,088	1,703,755	1,619,255
61 Auburn University	17,239	17,287	18,579	13,885	10,644	11,017	12,270	8,049
62 U of South Carolina	17,116	12,003	18,469	23,421	10,545	7,534	12,632	13,866
63 Michigan Tech University	16,959	15,714	14,801	14,752	8,166	8,140	7,492	7,611
64 U of Missouri Columbia	16,606	16,712	13,235	11,145	4,254	4,131	3,290	2,757
65 U MA Amherst	16,264	14,212	10,685	10,193	5,894	5,100	5,294	5,277
66 Texas Tech University	16,221	13,498	10,294	9,758	6,628	5,092	3,223	2,230
67 U of South Florida	15,728	16,671	16,501	13,139	6,284	5,458	6,612	5,271
68 NM Inst Mining & Tech	15,526	14,451	13,890	12,905	5,878	7,018	4,513	5,647
69 U of Missouri Rolla	15,086	14,573	13,896	15,719	5,439	5,754	5,762	4,045
70 Boston University	14,969	12,878	8,639	8,013	10,610	9,361	6,508	6,027
Total, 1st 70 institutions	3,209,075	3,013,422	2,892,219	2,752,946	1,882,403	1,820,693	1,771,351	1,680,035
71 Columbia University	14,901	14,114	12,866	13,481	11,438	9,254	7,663	10,314
72 U of Alabama Huntsville	14,387	12,149	14,156	11,530	7,260	6,603	8,862	7,410
73 U TX Arlington	14,351	14,245 <i>i</i>	9,696	9,654	8,744	8,320 <i>i</i>	4,591	2,930
74 Colorado School of Mines	14,296	13,486	14,406	12,723 <i>i</i>	4,977	5,522	7,028	6,665 <i>i</i>
75 Oregon State University	14,178	14,133	17,305	12,834	9,364	8,922	11,552	7,209
76 University of Oklahoma	14,008	15,554	15,564	16,064	3,264	4,066	4,380	3,646
77 University of Kansas	13,751	10,076	8,108	7,912	7,674	4,664	3,771	3,999
78 Duke University	13,710	12,327	10,666	8,339	10,155	8,005	7,015	5,618
79 University of IL Chicago	12,979	11,892	10,546	10,080	5,007	4,451	4,740	4,316
80 Kansas State University	12,972	12,825	11,376	12,451	5,110	5,231	4,755	5,798
Total, 1st 80 institutions	3,348,608	3,144,223	3,016,908	2,868,014	1,955,396	1,885,731	1,835,708	1,737,940
81 Oklahoma State University ...	12,899	11,294	19,411	15,788	5,604	5,355	9,277	6,324
82 Drexel University	12,867	13,317	12,650	11,905	8,025	8,230	8,685	6,849
83 U of Pennsylvania	12,785	11,740	12,564	12,737	10,123	8,609	9,514	9,016
84 Washington State U	12,321	10,525	10,576	9,760	6,982	5,447	5,982	5,853
85 Woods Hole Oceanograph	12,016	15,891	14,313	17,543	9,096	12,389	11,486	15,764 <i>i</i>
86 U CA Irvine	11,658	9,739	13,048	11,445	4,247	5,096	6,411	6,049
87 U Arkansas Main	11,576	9,220	9,096	10,451	4,714	3,816	3,980	3,840
88 Mercer University	11,561	10,397 <i>i</i>	10,451	8,913	11,140	9,856 <i>i</i>	9,939	8,381
89 The University of Alabama	11,544	11,377	10,084	9,291	8,518	7,249	6,356	4,939
90 Northeastern University	11,274	8,280	7,617	7,814	8,960	6,318	6,252	6,675
Total, 1st 90 institutions	3,469,109	3,256,003	3,136,718	2,983,661	2,032,805	1,958,096	1,913,590	1,811,630

See explanatory information and SOURCE at end of table.

**Table B-47. Total and federally financed R&D expenditures in engineering
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 Wayne State University	10,633	10,768	9,439	8,272	2,613	3,025	2,875	2,556
92 Wichita State University	10,531	9,223	8,004	6,757	1,686	1,677	1,265	1,383
93 SUNY Stony Brook	10,083	8,856	7,600	6,573	6,498	5,325	4,197	2,935
94 Tuskegee University	9,831	8,697	1,085	857	7,102	7,903	1,033	779
95 George Washington U	9,708	13,741	8,658	7,888	6,894	10,533	6,816	6,894
96 NC A&T State University	9,597	10,437	9,765	9,269	8,409	8,987	7,882	7,250
97 Brown University	9,568	9,616	10,249	8,175	5,958	6,035	7,150	5,573
98 Washington University	9,391	6,302	4,914	4,918	6,515	4,265	3,162	3,086
99 Ohio University	9,236	9,984	10,174	9,777	4,949	5,150	4,827	3,738
100 US Naval Postgrad School ...	9,078i	8,607	7,651i	6,853	8,850i	8,400	7,439i	6,763
Total, 1st 100 institutions	3,566,765	3,352,234	3,214,257	3,053,000	2,092,279	2,019,396	1,960,236	1,852,587
Total, all other sampled insts	486,977	478,437	485,090	454,976	256,984	255,688	269,665	246,969

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-48. R&D expenditures in engineering subfields
at universities and colleges: fiscal year 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total	Aero/ astro- nautical	Bioengi- neering/ Biomed- ical	Chemical	Civil	Elec- trical	Mechan- ical	Metal- lurgical and materials	Other
Total, all institutions	4,053,742	241,300	101,961	324,735	491,326	1,023,289	565,799	419,973	885,359
1 Johns Hopkins U	216,973	20,888 <i>i</i>	0 <i>i</i>	5,544 <i>i</i>	5,529 <i>i</i>	64,352 <i>i</i>	45,018 <i>i</i>	1,0521	74,590 <i>i</i>
2 MA Institute of Tech	178,664	32,365	6,443	8,614	11,609	62,509	23,190	16,950	16,984
3 Georgia Institute of Tech	165,472	12,588	315	6,008	11,359	83,392	19,743	10,433	21,634
4 Pennsylvania State U	142,907	3,364	1,521	5,481	7,114	43,667	21,933	37,923	21,904
5 Stanford University	116,364	6,473	0	7,376	5,332	30,929	15,777	2,335	48,142
6 University of Michigan	109,219	3,817	1,601	2,699	12,068	43,863	20,926	5,829	18,416
7 Texas A&M University	108,306	4,216	0	9,899	42,435	3,859	9,891	3,461	34,545
8 U CA Berkeley	99,697	0	0	3,362	31,898	44,872	85	114	19,366
9 U of Illinois Urbana	90,994	3,256	0	2,801	10,789	16,055	15,118	39,827	3,148
10 U TX Austin	81,547	6,376	1,487	6,229	14,962	21,329	5,409	18,962	6,793
Total, 1st 10 institutions	1,310,143	93,343	11,367	58,013	153,095	414,827	177,090	136,886	265,522
11 NC State University	80,278	3,597	7,540	13,306	10,322	12,857	7,296	7,897	17,463
12 Ohio State University	70,275	4,378	1,035	3,497	3,521	9,203	7,670	14,173	26,798
13 Purdue University	68,096	4,846	6,920	5,745	10,272	15,629	9,764	3,857	11,063
14 U MD College Park	67,267	8,192	0	880	4,908	11,870	9,406	6,041	25,970
15 U WI Madison	56,512	0	0	6,732	2,698	8,855	2,632	3,729	31,866
16 VA Polytech Inst & St U	48,844	3,314	1,249	1,954	8,082	12,135	10,706	3,446	7,958
17 University of Florida	48,621	3,020	32	3,943	9,331	6,602	2,969	9,844	12,880
18 New Mexico State Univ	46,187	20,416	0	8,263	1,205	4,626	1,949	13	9,715
19 U CA San Diego	46,172	0	6,157	3,340	0	16,572	4,865	1,319	13,919
20 Cornell University	44,687	4,424	0	2,828	3,958	13,362	1,024	3,993	15,098
Total, 1st 20 institutions	1,887,082	145,530	34,300	108,501	207,392	526,538	235,371	191,198	438,252
21 U CA Los Angeles	42,967	0	0	2,049	3,187	21,620	13,167	2,500	444
22 Northwestern University	42,636	0	1,504	2,388	3,343	6,218	2,317	14,351	12,515
23 University of Arizona	42,394	939	1,712	4,045	6,119	14,308	11,036	2,450	1,785
24 University of Dayton	41,418	3,553	0	455	94	757	12,434	15,158	8,967
25 Iowa State University	40,370	1,684	0	987	8,598	6,116	1,663	1,166	20,156
26 U of Southern California	38,686	2,196	1,901	1,283	2,349	23,506	1,486	1,510	4,455
27 University of Rochester	38,158	0	975	0	2,688	26,730	0	0	7,765
28 University of Minnesota	37,595	4,161	800	11,132	6,928	7,340	5,453	0	1,781
29 Princeton University	35,805	7,068	0	2,411	3,341	15,285	0	7,508	192
30 California Inst of Tech	35,630	6,407	0	3,865	559	5,892	2,302	1,579	15,026
Total, 1st 30 institutions	2,282,741	171,538	40,217	138,091	241,910	630,268	311,959	237,420	511,338
31 Louisiana St U, All Camp	35,605	0	0	2,733	2,690	910	3,188	6,173	19,911
32 U CA Santa Barbara	34,977	0	0	4,930	0	18,168	2,215	9,541	123
33 Carnegie Mellon U	34,363	0	0	2,295	2,383	12,355	2,965	5,721	8,644
34 U of Washington	34,277	2,475	2,665	4,962	6,279	2,775	983	14,138	0
35 Utah State University	33,933	0	0	0	1,200	30,273	1,385	0	1,075
36 Arizona State University	32,745	480	1,139	2,729	5,561	10,924	8,292	0	3,620
37 University of Colorado	28,935	9,396	0	2,989	4,725	9,068	2,655	91	11
38 Case Western Reserve U	28,340	0	5,061	7,292	520	6,243	3,620	4,655	949
39 U of Tennessee System	27,827	6,388	0	4,468	6,092	3,494	0	1,501	5,884
40 U CA Davis	27,726	0	3,825	3,528	7,462	3,681	4,813	0	4,417
Total, 1st 40 institutions	2,601,469	190,277	52,907	174,017	278,822	728,159	342,075	279,240	555,972
41 SUNY Buffalo	27,690	519	437	1,286	9,570	2,970	8,397	0	4,511
42 University of New Mexico	27,243	0	0	3,162	5,234	6,470	773	8,796	2,808
43 Clemson University	26,584	0	0	1,007	5,172	5,285	3,305	0	11,815
44 Rutgers the State U NJ	25,908	41	428	2,548	1,866	4,760	5,033	9,179	2,053
45 University of Kentucky	25,174	0	0	942	400	1,388	1,442	0	21,002
46 University of Connecticut	24,166	0	0	117	7,697	3,444	1,686	10,320	902
47 Rensselaer Polytech Inst	23,963	0	1,181	1,668	3,118	10,024	2,132	1,996	3,844
48 University of Delaware	23,408	0	0	6,357	4,791	5,369	4,345	0	2,546
49 Mississippi State U	22,862	1,334	6	1,402	698	1,525	1,207	0	16,690
50 University of Virginia	22,311	298	2,081	1,091	1,927	4,467	4,297	6,592	1,558
Total, 1st 50 institutions	2,850,778	192,469	57,040	193,597	319,295	773,861	374,692	316,123	623,701

See explanatory information and SOURCE at end of table.

**Table B-48. R&D expenditures in engineering subfields
at universities and colleges: fiscal year 1998**

[Dollars in thousands]

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Institution and ranking	Total	Aero/ astro- nautical	Bioengi- neering/ Biomed- ical	Chemical	Civil	Electri- cal	Mechan- ical	Metal- lurgical and materials	Other
51 U of Iowa	21,888	0	1,252	2,161	5,455	1,507	9,046	0	2,467
52 University of Cincinnati	21,569	1,692	0	1,600	6,525	7,022	2,047	2,683	0
53 Lehigh University	20,354	0	0	3,510	4,778	3,518	2,599	2,766	3,183
54 U of Nebraska Lincoln	20,029i	0i	0i	548i	3,881i	1,785i	3,873i	2,113i	7,829i
55 NJ Inst of Technology	19,714	0	0	1,145	2,019	2,450	603	0	13,497
56 University of Utah	19,174	0	2,709	3,891	5,050	1,835	1,756	2,662	1,271
57 University of Houston	19,097	3,398	0	1,844	1,646	1,632	3,452	6,921	204
58 West Virginia University	18,923	0	0	836	4,230	1,288	7,441	180	4,948
59 Colorado State University	17,998	0	3,383	2,711	5,004	3,491	3,255	0	154
60 Michigan State University	17,837	0	0	5,494	3,082	2,811	2,436	1,815	2,199
Total, 1st 60 institutions	3,047,361	197,559	64,384	217,337	360,965	801,200	411,200	335,263	659,453
61 Auburn University	17,239	417	0	2,485	2,036	2,828	1,765	1,161	6,547
62 U of South Carolina	17,116	0	0	5,387	520	7,338	2,409	292	1,170
63 Michigan Tech University	16,959	0	0	3,365	4,308	1,155	4,588	2,719	824
64 U of Missouri Columbia	16,606	0	0	1,971	2,822	2,536	1,377	1,956	5,944
65 U MA Amherst	16,264	0	0	3,071	4,306	4,584	3,975	0	328
66 Texas Tech University	16,221	0	0	825	3,026	7,011	1,352	2,339	1,668
67 U of South Florida	15,728	0	0	429	8,503	5,082	970	0	744
68 NM Inst Mining & Tech	15,526	0	0	4,490	0	170	0	1,065	9,801
69 U of Missouri Rolla	15,086	0	0	328	1,168	2,865	2,995	5,856	1,874
70 Boston University	14,969	1,024	7,020	0	0	3,754	1,024	2,077	70
Total, 1st 70 institutions	3,209,075	199,000	71,404	239,688	387,654	838,523	431,655	352,728	688,423
71 Columbia University	14,901	0	0	1,559	530	5,833	808	848	5,323
72 U of Alabama Huntsville	14,387	0	0	3,114	53	3,701	4,191	730	2,598
73 U TX Arlington	14,351	0	194	0	276	8,019	817	0	5,045
74 Colorado School of Mines	14,296	0	0	3,429	0	0	0	8,505	2,362
75 Oregon State University	14,178	276	0	429	4,042	2,782	1,147	768	4,734
76 University of Oklahoma	14,008	0	0	5,727	3,004	1,998	1,956	0	1,323
77 University of Kansas	13,751	1,222	0	2,046	1,709	7,581	365	0	828
78 Duke University	13,710	0	5,803	0	702	4,024	3,181	0	0
79 University of IL Chicago	12,979	0	0	1,358	1,808	5,756	3,134	0	923
80 Kansas State University	12,972	0	0	2,337	1,497	500	2,189	0	6,449
Total, 1st 80 institutions	3,348,608	200,498	77,401	259,687	401,275	878,717	449,443	363,579	718,008
81 Oklahoma State University ...	12,899	393	0	990	795	1,966	2,178	6	6,571
82 Drexel University	12,867	0	496	346	1,777	2,629	932	2,453	4,234
83 U of Pennsylvania	12,785	0	1,523	1,572	10	1,251	1,700	3,596	3,133
84 Washington State U	12,321	0	0	888	2,233	3,861	1,375	801	3,163
85 Woods Hole Oceanograph ...	12,016	853i	0i	878i	933i	2,946i	2,632i	0i	3,774i
86 U CA Irvine	11,658	0	0	1,543	4,781	2,028	3,182	0	124
87 U Arkansas Main	11,576	0	0	965	2,003	3,866	1,262	0	3,480
88 Mercer University	11,561	687	0	177	0	482	2,317	7,413	485
89 The University of Alabama	11,544	2,346	0	2,568	410	375	673	3,200	1,972
90 Northeastern University	11,274	0	0	1,321	100	6,513	827	0	2,513
Total, 1st 90 institutions	3,469,109	204,777	79,420	270,935	414,317	904,634	466,521	381,048	747,457

See explanatory information and SOURCE at end of table.

**Table B-48. R&D expenditures in engineering subfields
at universities and colleges: fiscal year 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total	Aero/ astro- nautical	Bioengi- neering/ Biomed- ical	Chemical	Civil	Elec- trical	Mechan- ical	Metal- lurgical and materials	Other
91 Wayne State University	10,633	0	1,615	1,695	912	1,272	2,194	0	2,945
92 Wichita State University	10,531	8,567	0	0	0	214	315	0	1,435
93 SUNY Stony Brook	10,083	0	291	0	0	1,920	2,944	4,562	366
94 Tuskegee University	9,831	183	0	1,046	0	343	8,259	0	0
95 George Washington U	9,708	2,018	0	81	849	1,499	2,075	96	3,090
96 NC A&T State University	9,597	0	0	1,304	854	1,771	3,887	0	1,781
97 Brown University	9,568	681i	0i	688i	732i	2,280i	2,207i	0i	2,980i
98 Washington University	9,391	0	3,188	1,039	368	2,264	1,434	583	515
99 Ohio University	9,236	3,195	0	1,364	1,263	1,940	196	320	958
100 US Naval Postgrad School ...	9,078i	3,018i	0i	0i	0i	3,670i	1,871i	519i	0i
Total, 1st 100 institutions	3,566,765	222,439	84,514	278,152	419,295	921,807	491,903	387,128	761,527
Total, all other sampled insts	486,977	18,861	17,447	46,583	72,031	101,482	73,896	32,845	123,832

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-49. Federally financed R&D expenditures in engineering subfields
at universities and colleges: fiscal year 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total	Aero/ astro- nautical	Bioengi- neering/ Biomed- ical	Chemical	Civil	Electri- cal	Mechan- ical	Metal- lurgical and materials	Other
Total, all institutions	2,349,263	168,204	56,504	167,610	195,125	680,882	349,632	239,416	491,890
1 Johns Hopkins U	212,747	20,607 ⁱ	0 ⁱ	4,809 ⁱ	4,393 ⁱ	64,225 ⁱ	44,712 ⁱ	659 ⁱ	73,342 ⁱ
2 MA Institute of Tech	127,064	20,054	4,738	4,187	6,684	54,977	12,768	10,562	13,094
3 Stanford University	102,752	5,327	0	6,858	4,230	26,348	13,145	1,630	45,214
4 Pennsylvania State U	85,368	1,772	1,093	1,503	944	30,240	13,479	22,090	14,247
5 Georgia Institute of Tech	72,542	5,518	138	2,634	4,980	36,559	8,655	4,574	9,484
6 University of Michigan	68,083	2,871	1,027	1,816	6,969	29,549	12,262	4,133	9,456
7 U of Illinois Urbana	54,008	2,363	0	1,589	4,547	10,330	7,688	25,806	1,685
8 U CA Berkeley	47,896	0	0	1,780	7,440	30,176	15	21	8,464
9 U TX Austin	46,499	5,463	1,251	3,215	1,506	15,657	3,863	14,264	1,280
10 U MD College Park	38,734	5,104	0	662	2,888	9,173	4,793	4,845	11,269
Total, 1st 10 institutions	855,693	69,079	8,247	29,053	44,581	307,234	121,380	88,584	187,535
11 New Mexico State Univ	37,487	18,130	0	7,334	547	3,806	1,097	0	6,573
12 Purdue University	34,899	2,803	2,046	2,416	5,653	10,636	3,503	3,181	4,661
13 University of Rochester	34,243	0	0	743	0	2,407	26,277	0	4,816
14 University of Dayton	34,141	3,190	0	314	87	457	9,609	12,963	7,521
15 U WI Madison	34,042	0	0	3,853	1,078	5,782	1,345	2,509	19,475
16 NC State University	33,161	1,915	1,136	4,642	3,208	6,503	3,189	4,615	7,953
17 California Inst of Tech	31,536	6,395	0	3,122	441	5,222	2,116	1,214	13,026
18 U of Southern California	30,530	1,910	1,634	980	1,324	19,001	1,186	1,352	3,143
19 Utah State University	29,337	0	0	0	322	27,970	919	0	126
20 Cornell University	28,416	2,854	0	1,776	1,685	8,683	605	2,654	10,159
Total, 1st 20 institutions	1,183,485	106,276	13,063	54,233	58,926	397,701	171,226	117,072	264,988
21 Texas A&M University	27,986	2,254	0	1,507	7,821	1,177	1,808	77	13,342
22 U CA Los Angeles	27,871	0	0	1,085	950	14,176	10,493	1,167	0
23 U CA San Diego	27,155	0	4,075	2,950	0	9,916	3,214	988	6,012
24 Northwestern University	27,047	0	816	1,285	2,310	3,603	1,456	9,963	7,614
25 U CA Santa Barbara	26,393	0	0	3,173	0	14,665	1,567	6,988	0
26 VA Polytech Inst & St U	25,000	2,339	306	654	3,413	6,588	6,632	1,447	3,621
27 University of Arizona	24,232	637	449	2,181	4,152	7,914	6,816	1,184	899
28 University of Minnesota	24,122	3,646	0	8,684	2,531	5,902	3,062	0	297
29 Carnegie Mellon U	23,142	0	0	1,782	1,726	9,018	1,895	4,082	4,639
30 U of Washington	21,927	2,244	1,488	2,972	3,106	1,942	389	9,786	0
Total, 1st 30 institutions	1,438,360	117,396	20,197	80,506	84,935	472,602	208,558	152,754	301,412
31 University of Florida	21,735	1,628	0	1,597	3,051	3,543	1,664	4,381	5,871
32 Princeton University	20,707	4,708	0	1,107	1,393	7,574	0	5,923	2
33 University of New Mexico	20,093	0	0	2,572	3,642	5,246	711	6,459	1,463
34 Ohio State University	18,760	1,241	497	609	449	2,543	2,818	5,283	5,320
35 Case Western Reserve U	18,166	0	3,393	4,116	440	3,632	2,683	3,314	588
36 University of Colorado	16,824	5,696	0	1,684	2,978	4,368	2,018	76	4
37 Mississippi State U	15,833	593	0	662	134	599	280	0	13,565
38 University of Virginia	14,508	280	1,174	843	1,469	3,097	1,162	5,533	950
39 Iowa State University	14,229	1,228	0	655	3,660	1,462	845	659	5,720
40 SUNY Buffalo	14,129	0	0	518	5,143	839	6,823	0	806
Total, 1st 40 institutions	1,613,344	132,770	25,261	94,869	107,294	505,505	227,562	184,382	335,701
41 Louisiana St U, All Camp	13,535	0	0	949	500	212	757	6	11,111
42 U of Tennessee System	12,855	2,520	0	2,859	1,898	2,877	0	693	2,008
43 Arizona State University	12,501	404	524	1,910	2,371	3,755	3,094	0	443
44 University of Utah	12,197	0	1,621	2,766	3,377	1,072	1,509	1,815	37
45 University of Cincinnati	11,992	872	0	477	4,232	4,684	511	1,216	0
46 Rensselaer Polytech Inst	11,925	0	912	1,044	787	4,873	1,710	1,459	1,140
47 Rutgers the State U NJ	11,517	41	202	656	105	2,282	4,140	3,421	670
48 Columbia University	11,438	0	0	57	430	4,579	500	821	5,051
49 NJ Inst of Technology	11,162	0	0	563	1,089	559	119	0	8,832
50 Mercer University	11,140	687	0	177	0	456	2,317	7,037	466
Total, 1st 50 institutions	1,733,606	137,294	28,520	106,327	122,083	530,854	242,219	200,850	365,459

See explanatory information and SOURCE at end of table.

**Table B-49. Federally financed R&D expenditures in engineering subfields
at universities and colleges: fiscal year 1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total	Aero/ astro- nautical	Bioengi- neering/ Biomed- ical	Chemical	Civil	Electri- cal	Mechan- ical	Metal- lurgical and materials	Other
51 University of Delaware	10,647	0	0	3,227	2,131	2,647	1,624	0	1,018
52 Auburn University	10,644	282	0	1,147	805	1,888	1,389	784	4,349
53 Boston University	10,610	867	5,902	0	0	2,616	867	288	70
54 U of South Carolina	10,545	0	0	2,382	278	6,328	1,141	42	374
55 U CA Davis	10,377	0	696	2,162	1,137	1,423	1,150	0	3,809
56 Duke University	10,155	0	4,663	0	284	3,009	2,199	0	0
57 U of Pennsylvania	10,123	0	965	1,026	0	896	1,495	2,860	2,881
58 University of Kentucky	9,871	0	0	484	236	1,025	877	0	7,249
59 West Virginia University	9,472	0	0	241	2,258	813	3,388	14	2,758
60 Oregon State University	9,364	276	0	288	2,836	1,642	469	263	3,590
Total, 1st 60 institutions	1,835,414	138,719	40,746	117,284	132,048	553,141	256,818	205,101	391,557
61 Woods Hole Oceanograph	9,096	649i	0i	708i	715i	2,375i	1,764i	0i	2,885i
62 Northeastern University	8,960	0	0	1,067	68	5,362	597	0	1,866
63 US Naval Postgrad School ...	8,850i	2,928i	0i	0i	0i	3,621i	1,782i	519i	0i
64 Lehigh University	8,842	0	0	812	1,475	2,840	1,304	1,838	573
65 U TX Arlington	8,744	0	51	0	94	6,513	351	0	1,735
66 Colorado State University	8,653	0	1,605	1,467	2,810	1,952	812	0	7
67 U of Iowa	8,642	0	226	1,535	1,937	952	3,255	0	737
68 Syracuse University	8,570	111	1,175	677	737	1,345	677	163	3,685
69 The University of Alabama	8,518	2,128	0	2,335	217	283	320	1,997	1,238
70 NC A&T State University	8,409	0	0	1,271	603	1,654	3,498	0	1,383
Total, 1st 70 institutions	1,922,698	144,535	43,803	127,156	140,704	580,038	271,178	209,618	405,666
71 Clemson University	8,315	0	0	315	1,618	1,653	1,034	0	3,695
72 Michigan Tech University	8,166	0	0	1,059	3,146	683	1,924	1,346	8
73 Drexel University	8,025	0	384	167	634	1,708	693	1,327	3,112
74 University of Houston	7,783	1,822	0	548	760	739	2,100	1,720	94
75 University of Kansas	7,674	856	0	1,088	966	4,540	224	0	0
76 Florida International U	7,470	0	0	0	801	1,031	5,638	0	0
77 U of Alabama Huntsville	7,260	0	0	1,114	46	2,199	2,368	259	1,274
78 Tuskegee University	7,102	109	0	803	0	220	5,970	0	0
79 Washington State U	6,982	0	0	733	1,441	1,754	1,085	581	1,388
80 Florida Atlantic U	6,920	0	0	0	0	1,198	202	0	5,520
Total, 1st 80 institutions	1,998,395	147,322	44,187	132,983	150,116	595,763	292,416	214,851	420,757
81 George Washington U	6,894	1,753	0	81	645	837	1,686	30	1,862
82 Texas Tech University	6,628	0	0	64	1,094	4,711	483	54	222
83 Univ of North Dakota	6,572	0	0	5	6	76	15	0	6,470
84 Washington University	6,515	0	2,642	306	183	1,627	1,088	266	403
85 SUNY Stony Brook	6,498	0	0	0	0	1,208	2,083	3,207	0
86 University of Notre Dame	6,385	1,236	0	1,269	1,336	2,524	0	0	20
87 U of South Florida	6,284	0	0	148	2,008	3,139	833	0	156
88 Yale University	6,240	0	0	1,313	0	2,719	1,188	0	1,020
89 Brown University	5,958	424i	0i	459i	471i	1,564i	1,154i	0i	1,886i
90 U MA Amherst	5,894	0	0	1,103	545	2,710	1,378	0	158
Total, 1st 90 institutions	2,062,263	150,735	46,829	137,731	156,404	616,878	302,324	218,408	432,954

See explanatory information and SOURCE at end of table.

**Table B-49. Federally financed R&D expenditures in engineering subfields
at universities and colleges: fiscal year 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total	Aero/ astro- nautical	Bioengin- eering/ Biomed- ical	Chemical	Civil	Electri- cal	Mechan- ical	Metal- lurgical and materials	Other
91 NM Inst Mining & Tech	5,878	0	0	826	0	108	0	37	4,907
92 Harvard University	5,816	0i	0i	0i	0i	0i	0i	0i	5,816i
93 Oklahoma State University	5,604	88	0	134	60	909	694	4	3,715
94 University of Connecticut	5,564	0	0	37	580	1,124	815	2,659	349
95 Old Dominion University	5,542	1,164	0	0	423	1,784	1,072	0	1,099
96 U of Missouri Rolla	5,439	0	0	36	455	1,647	1,222	1,746	333
97 U of Alabama Birmingham	5,307	0	1,317	0	241	23	0	3,726	0
98 George Mason University	5,258	0	0	0	83	838	0	0	4,337
99 Kansas State University	5,110	0	0	1,982	616	281	721	0	1,510
100 Michigan State University	5,096	0	0	1,466	676	970	982	483	519
Total, 1st 100 institutions	2,116,877	151,987	48,146	142,212	159,538	624,562	307,830	227,063	455,539
Total, all other sampled insts	232,386	16,217	8,358	25,398	35,587	56,320	41,802	12,353	36,351

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-50. R&D expenditures in the physical sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Astronomy	Chemistry	Physics	Other
Total, all institutions	2,439,559	2,347,081	2,235,066	2,235,953	298,548	863,302	1,052,914	224,795
1 Johns Hopkins U	131,662	128,348	118,464	115,743	31,925	18,541	74,433	6,763
2 MA Institute of Tech	100,899	105,971	97,350	98,021	6,433	11,050	83,416	0
3 California Inst of Tech	86,036	83,752	75,331	64,645	10,284	17,760	57,992	0
4 U TX Austin	83,029	51,871	50,515	54,270	5,753	11,397	15,293	50,586
5 U CA Berkeley	76,164	76,564	67,181	63,205	18,257	20,638	37,263	6
6 University of Arizona	71,248	83,110	84,643	103,066	60,289	6,588	4,371	0
7 Cornell University	60,854	54,955	50,239	45,614	12,220	12,031	35,255	1,348
8 Stanford University	58,555	62,903	53,574	47,373	0	12,306	4,060	42,189
9 Florida State University	50,612	54,209	41,672	54,993	20	7,890	10,348	32,354
10 U MD College Park	50,105	54,987	56,690	57,171	6,611	6,635	27,699	9,160
Total, 1st 10 institutions	769,164	756,670	695,659	704,101	151,792	124,836	350,130	142,406
11 University of Colorado	45,369	40,041	40,795	39,843	22,129	12,948	9,983	309
12 U WI Madison	38,814	37,401	38,439	38,527	3,776	12,011	16,192	6,835
13 U CA San Diego	37,948	38,803	39,637	35,502	9,630	10,297	16,504	1,517
14 U CA Los Angeles	36,402	33,452	24,079	27,619	3,690	11,769	20,943	0
15 Michigan State University	30,143	28,738	27,871	24,979	0	5,507	24,636	0
16 University of Chicago	29,352	28,594	27,859	29,790	13,024	8,189	8,112	27
17 U of Illinois Urbana	29,100	39,270	42,032	35,926	2,076	13,760	13,264	0
18 Princeton University	28,114	28,337	24,918	25,793	3,599	8,973	15,542	0
19 Harvard University	27,527	22,040	25,245	29,019	4,901	11,185	8,957	2,484
20 Univ of Hawaii Manoa	26,192	19,855	18,436	26,427	22,197	1,993	2,002	0
Total, 1st 20 institutions	1,098,125	1,073,201	1,004,970	1,017,526	236,814	221,468	486,265	153,578
21 Pennsylvania State U	25,966	25,055	25,164	26,069	3,025	16,075	5,532	1,334
22 U of Pennsylvania	24,546	26,132	24,478	22,910	0	11,669	12,877	0
23 Columbia University	24,154	21,789	20,537	23,538	3,115	8,753	4,326	7,960
24 SUNY Stony Brook	23,978	21,382	22,815	24,294	1,366	6,533	16,078	1
25 University of Michigan	23,072	22,831	19,179	19,979	1,314	7,820	13,187	751
26 U MA Amherst	23,045	22,167	20,647	16,706	0	11,131	11,238	676
27 U CA Santa Cruz	22,681	21,579	23,722	21,139	12,722	4,448	5,511	0
28 U of Washington	22,595	19,729	20,099	22,760	4,195	7,097	11,303	0
29 Purdue University	22,130	21,122	19,092	21,070	0	12,548	9,582	0
30 Georgia Institute of Tech	21,968	20,384	17,984	22,840	0	10,869	11,097	2
Total, 1st 30 institutions	1,332,260	1,295,371	1,218,687	1,238,831	262,551	318,411	586,996	164,302
31 University of Florida	21,774	16,453	14,689	11,516	1,452	11,675	8,025	622
32 Indiana University	21,275	26,206	26,645	27,144	644	7,982	12,613	36
33 Texas A&M University	20,765	22,927	22,552	21,920	0	9,560	6,963	4,242
34 Rutgers the State U NJ	20,261	19,797	18,396	18,312	0	9,622	10,639	0
35 Arizona State University	19,916	17,559	18,962	16,534	198	9,583	4,498	5,637
36 Ohio State University	19,733	18,826	20,229	20,200	1,273	9,679	8,725	56
37 U CA Santa Barbara	18,068	19,305	20,133	19,096	0	5,620	12,448	0
38 U CA Irvine	17,542	18,747	20,496	15,306	0	8,425	9,068	49
39 University of Minnesota	17,404	17,439	15,922	15,913	2,776	7,574	7,054	0
40 Yale University	17,397	15,988	15,853	18,879	781	6,997	9,619	0
Total, 1st 40 institutions	1,526,395	1,488,618	1,412,564	1,423,651	269,675	405,128	676,648	174,944
41 Northwestern University	15,888	11,913	11,844	12,164	0	9,843	4,535	1,510
42 NC State University	15,387	11,672	12,234	10,848	0	4,507	10,861	19
43 Duke University	15,187	12,604	13,366	13,138	0	4,485	10,702	0
44 U of Iowa	15,049	17,241	14,860	14,834	1,140	3,421	10,488	0
45 U of Alaska Fairbanks	14,507 <i>i</i>	13,473 <i>i</i>	13,752 <i>i</i>	14,542 <i>i</i>	4,935 <i>i</i>	1,362 <i>i</i>	7,599 <i>i</i>	611 <i>i</i>
46 University of Rochester	13,815	13,000	12,803	12,909	1,822	6,734	5,259	0
47 Louisiana St U, All Camp	13,540	13,576	11,141	11,211	0	5,752	7,155	633
48 University of Notre Dame	13,158	11,382	11,532	12,393	0	8,658	4,500	0
49 U CA Davis	13,053	11,535	10,505	9,499	0	4,562	4,829	3,662
50 Boston University	12,897	11,973	13,155	11,344	694	2,293	4,440	5,470
Total, 1st 50 institutions	1,668,876	1,616,987	1,537,756	1,546,533	278,266	456,745	747,016	186,849

See explanatory information and SOURCE at end of table.

**Table B-50. R&D expenditures in the physical sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Astronomy	Chemistry	Physics	Other
51 University of Oklahoma	12,401	10,382	9,675	7,815	0	9,922	2,479	0
52 U of NC Chapel Hill	11,750	10,360	9,760	9,186	0	8,368	3,382	0
53 University of Virginia	11,708	11,655	11,166	12,724	1,169	5,902	4,637	0
54 U of South Carolina	11,655	8,906	9,968	7,603	0	7,357	4,298	0
55 U of Tennessee System	11,586	11,130	11,203	12,061	0	3,963	7,623	0
56 University of Utah	11,105	12,085	9,512	9,911	0	7,398	3,707	0
57 U of Southern California	11,068	9,958	9,288	7,884	178	7,900	2,990	0
58 SUNY Buffalo	10,913	7,801	8,038	8,491	0	7,426	2,953	534
59 Wayne State University	10,777	9,358	8,649	9,828	0	5,330	5,447	0
60 Vanderbilt University	10,725	8,625	7,908	7,497	0	3,068	7,657	0
Total, 1st 60 institutions	1,782,564	1,717,247	1,632,923	1,639,533	279,613	523,379	792,189	187,383
61 University of New Mexico	10,518	7,409	6,257	5,405	0	3,109	7,409	0
62 Colorado State University	10,450	8,943	8,126	7,126	0	7,753	2,644	53
63 University of Kansas	10,356	9,862	8,645	9,360	610	7,177	2,100	469
64 University of Pittsburgh	10,108	11,805	10,660	12,775	740	6,097	3,141	130
65 University of Georgia	10,061	9,416	9,601	10,095	0	6,118	3,943	0
66 U of Central Florida	9,795	3,318	5,091	8,268	0	522	9,273	0
67 Iowa State University	9,599	9,439	9,407	9,555	0	6,003	3,596	0
68 University of Delaware	9,466	8,888	8,501	10,537	0	4,243	1,979	3,244
69 Rice University	9,187	8,820	8,696	8,332	2,065	4,518	2,604	0
70 VA Polytech Inst & St U	9,015	9,969	9,342	9,867	0	7,037	1,927	51
Total, 1st 70 institutions	1,881,119	1,805,116	1,717,249	1,730,853	283,028	575,956	830,805	191,330
71 Washington University	8,942	8,967	8,368	8,994	0	4,321	4,621	0
72 University of IL Chicago	8,597	7,567	6,453	7,225	0	3,244	5,353	0
73 Carnegie Mellon U	8,485	8,293	8,065	7,738	0	3,032	4,879	574
74 University of Akron	8,380	8,443	7,571	7,913	0	8,326	54	0
75 CUNY City College	8,273	8,949	8,220	7,150	0	4,336	3,937	0
76 Kent State University	8,213	7,055	8,013i	7,595i	0	1,107	1,026	6,080
77 Case Western Reserve U	8,183	5,978	5,451	6,506	295	5,307	2,581	0
78 Brown University	8,005	9,050	8,791	8,018	0	3,450	4,555	0
79 University of Houston	7,770	7,793	8,666	7,912	0	5,008	2,762	0
80 U MD Baltimore County	7,394	4,063	2,584	3,055	0	2,855	794	3,745
Total, 1st 80 institutions	1,963,361	1,881,274	1,789,431	1,802,959	283,323	616,942	861,367	201,729
81 Kansas State University	7,348	7,766	5,734	5,697	0	1,954	5,394	0
82 University of Oregon	7,325	6,706	7,305	6,943	0	2,923	4,402	0
83 New York University	6,919	6,403	7,000	4,873	0	5,415	1,504	0
84 Rensselaer Polytech Inst	6,779	5,470i	5,365	6,100	0	2,690	1,889	2,200
85 The Rockefeller Univ	6,768	6,185	6,432	7,777	0	4,963	1,805	0
86 Montana St U Bozeman	6,682	4,918	7,223	5,623	0	2,961	3,721	0
87 U CA Riverside	6,516	6,148	5,475	4,945	0	3,495	3,021	0
88 U of Alabama Huntsville	6,447	8,320	8,906	8,446	0	1,717	4,730	0
89 Oregon State University	6,243	5,865	5,649	4,448	145	4,996	1,102	0
90 SUNY Albany	6,201	4,638	4,139	3,494	0	1,298	4,903	0
Total, 1st 90 institutions	2,030,589	1,943,693	1,852,659	1,861,305	283,468	649,354	893,838	203,929

See explanatory information and SOURCE at end of table.

**Table B-50. R&D expenditures in the physical sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Astronomy	Chemistry	Physics	Other
91 Northeastern University	6,158	4,572	3,717	4,430	0	2,642	3,516	0
92 Emory University	5,989	8,049	6,289	6,201	0	5,230	759	0
93 Syracuse University	5,975	5,393i	5,231	4,590	0	1,971	3,882	122
94 Inst Paper Sci and Tech	5,933e	5,933e	4,821i	3,708	0e	1,882e	2,091e	1,960e
95 Clemson University	5,769	4,800	5,212	6,523	0	2,865	2,904	0
96 U MA Lowell	5,667	6,141	5,507	5,308	0	2,561	3,106	0
97 U of Nebraska Lincoln	5,467i	5,387	5,782	7,749	0i	3,308i	2,159i	0i
98 Texas Tech University	5,435	4,823	4,571	3,616	0	3,877	1,558	0
99 Oklahoma State University ...	5,432	5,002	6,193	6,470	0	1,557	3,765	110
100 Clark Atlanta University	5,427	5,030	6,000	5,978	0	2,627	2,800	0
Total, 1st 100 institutions	2,087,841	1,998,823	1,905,982	1,915,878	283,468	677,874	920,378	206,121
Total, all other sampled insts	351,718	348,258	329,084	320,075	15,080	185,428	132,536	18,674

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-51. Federally financed R&D expenditures in the physical sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 1 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Astronomy	Chemistry	Physics	Other
Total, all institutions	1,735,241	1,693,355	1,617,965	1,626,119	185,377	577,459	804,181	168,224
1 Johns Hopkins U	129,077	124,228	115,030	112,353	30,434	18,280	73,601	6,762
2 MA Institute of Tech	88,749	97,740	84,821	86,785	3,673	9,201	75,875	0
3 California Inst of Tech	85,615	80,025	70,337	58,369	10,196	17,629	57,790	0
4 U TX Austin	73,686	38,712	37,281	40,469	4,536	7,123	12,278	49,749
5 Stanford University	54,226	58,039	48,890	44,652	0	10,658	3,836	39,732
6 University of Arizona	43,855	49,995	52,810	69,890	35,685	4,882	3,288	0
7 Cornell University	42,519	42,486	40,847	39,052	2,540	8,682	30,184	1,113
8 U CA Berkeley	41,614	55,373	48,383	47,267	3,149	14,447	24,014	4
9 U MD College Park	31,953	28,373	29,390	29,434	5,436	4,269	17,999	4,249
10 University of Colorado	30,826	24,307	24,514	24,460	11,634	10,446	8,487	259
Total, 1st 10 institutions	622,120	599,278	552,303	552,731	107,283	105,617	307,352	101,868
11 U WI Madison	28,330	26,782	29,470	29,581	2,346	7,695	13,343	4,946
12 U CA San Diego	28,329	33,313	35,088	30,220	6,592	7,717	12,873	1,147
13 Harvard University	26,770	19,797	23,200	26,698	4,891	10,639	8,883	2,357
14 University of Chicago	26,486	25,455	25,134	25,335	12,221	6,671	7,567	27
15 Florida State University	25,596	28,615	19,908	31,908	20	3,304	4,174	18,098
16 U CA Los Angeles	24,225	25,762	20,674	24,002	1,260	9,530	13,435	0
17 U of Pennsylvania	23,326	22,194	22,397	18,850	0	11,283	12,043	0
18 Columbia University	21,098	19,636	17,757	20,180	3,083	7,849	2,414	7,752
19 Princeton University	19,863	20,299	18,380	19,115	1,948	5,727	12,188	0
20 Michigan State University	19,658	18,594	17,951	16,643	0	3,641	16,017	0
Total, 1st 20 institutions	865,801	839,725	782,262	795,263	139,644	179,673	410,289	136,195
21 U of Illinois Urbana	19,073	29,002	32,154	29,093	1,321	7,978	9,774	0
22 Indiana University	17,336	20,317	20,317	19,835	367	6,047	10,922	0
23 University of Michigan	17,171	16,389	13,688	13,352	1,139	6,230	9,695	107
24 U of Washington	16,608	13,804	14,935	17,066	1,771	4,978	9,859	0
25 SUNY Stony Brook	16,404	14,758	15,076	16,291	1,258	4,320	10,826	0
26 Yale University	15,267	14,081	14,097	16,828	436	5,921	8,910	0
27 University of Minnesota	14,874	14,998	13,231	13,265	2,480	6,446	5,948	0
28 Purdue University	14,045	13,538	13,035	14,478	0	8,212	5,833	0
29 Pennsylvania State U	14,039	16,191	16,779	16,791	2,224	8,852	2,962	1
30 U CA Santa Barbara	13,868	16,781	17,661	16,746	0	4,074	9,794	0
Total, 1st 30 institutions	1,024,486	1,009,584	953,235	969,008	150,640	242,731	494,812	136,303
31 U MA Amherst	13,750	14,079	13,024	9,874	0	6,240	7,510	0
32 Duke University	12,906	10,770	11,461	11,241	0	2,767	10,139	0
33 Univ of Hawaii Manoa	12,873	10,432	11,262	19,562	9,741	1,410	1,722	0
34 University of Rochester	12,645	12,123	12,030	12,167	1,751	6,120	4,774	0
35 U CA Irvine	12,358	15,040	16,247	13,673	0	6,218	6,140	0
36 U of Iowa	11,749	12,493	11,140	11,370	962	2,125	8,662	0
37 University of Notre Dame	11,410	9,684	9,944	10,467	0	7,740	3,670	0
38 Ohio State University	11,209	12,647	13,950	14,820	952	5,069	5,188	0
39 Texas A&M University	11,139	12,435	13,688	11,406	0	5,211	3,862	2,066
40 Northwestern University	10,954	8,592	8,677	9,402	0	7,096	3,568	290
Total, 1st 40 institutions	1,145,479	1,127,879	1,074,658	1,092,990	164,046	292,727	550,047	138,659
41 Boston University	10,550	9,855	9,903	10,008	682	1,729	4,033	4,106
42 Rutgers the State U NJ	10,537	10,316	9,614	9,555	0	6,790	3,747	0
43 University of Virginia	10,207	10,162	9,874	10,027	1,018	4,954	4,235	0
44 University of Florida	10,061	9,008	7,181	5,948	814	5,309	3,904	34
45 Arizona State University	9,996	8,939	9,740	8,824	0	4,287	3,370	2,339
46 Georgia Institute of Tech	9,631	9,549	9,258	11,307	0	4,765	4,865	1
47 University of Utah	9,158	10,714	8,812	8,974	0	6,122	3,036	0
48 U CA Davis	9,072	9,883	9,142	8,382	0	3,445	3,687	1,940
49 Vanderbilt University	9,043	7,273	6,985	6,688	0	2,506	6,537	0
50 U of Southern California	8,799	8,270	7,608	6,869	138	6,089	2,572	0
Total, 1st 50 institutions	1,242,533	1,221,848	1,162,775	1,179,572	166,698	338,723	590,033	147,079

See explanatory information and SOURCE at end of table.

Table B-51. Federally financed R&D expenditures in the physical sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 2 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Astronomy	Chemistry	Physics	Other
51 NC State University	8,565	6,728	7,124	5,870	0	2,288	6,277	0
52 U CA Santa Cruz	8,415	9,613	12,064	9,813	1,503	2,710	4,202	0
53 University of Pittsburgh	8,348	9,787	9,267	10,779	665	4,765	2,801	117
54 U of NC Chapel Hill	8,181	7,199	7,775	6,969	0	5,905	2,276	0
55 Louisiana St U, All Camp	8,015	7,221	6,057	6,024	0	3,297	4,718	0
56 University of New Mexico	7,997	5,027	4,507	3,891	0	2,157	5,840	0
57 U of Alaska Fairbanks	7,805i	6,967i	7,518i	9,235i	2,420i	345i	4,922i	118i
58 Colorado State University	7,529	7,538	6,502	5,397	0	5,650	1,868	11
59 U of South Carolina	7,236	5,554	7,748	5,435	0	4,679	2,557	0
60 Rice University	7,225	7,081	7,451	6,981	1,723	3,094	2,408	0
Total, 1st 60 institutions	1,321,849	1,294,563	1,238,788	1,249,966	173,009	373,613	627,902	147,325
61 U of Tennessee System	7,175	6,620	6,874	7,041	0	2,433	4,742	0
62 University of Delaware	6,868	5,927	5,996	6,776	0	2,877	1,375	2,616
63 Washington University	6,770	7,178	6,272	6,930	0	3,376	3,394	0
64 CUNY City College	6,683	7,086	6,906	6,253	0	3,862	2,821	0
65 University of Oklahoma	6,079	4,932	4,516	4,110	0	4,656	1,423	0
66 University of Oregon	6,034	5,542	5,933	5,374	0	2,432	3,602	0
67 Syracuse University	5,954	4,859i	3,745	3,758	0	1,965	3,870	119
68 Kansas State University	5,819	5,109	4,804	4,664	0	1,341	4,478	0
69 Carnegie Mellon U	5,728	5,539	6,133	6,031	0	1,962	3,696	70
70 U MD Baltimore County	5,711	3,522	2,403	2,471	0	1,917	607	3,187
Total, 1st 70 institutions	1,384,670	1,350,877	1,292,370	1,303,374	173,009	400,434	657,910	153,317
71 University of Kansas	5,484	4,642	4,010	3,887	312	3,805	1,367	0
72 Northeastern University	5,474	4,300	3,401	3,874	0	2,135	3,339	0
73 SUNY Buffalo	5,380	4,571	5,124	5,051	0	4,110	937	333
74 Montana St U Bozeman	5,355	4,053	4,154	3,465	0	2,596	2,759	0
75 U CA Riverside	5,346	5,580	4,948	4,685	0	2,852	2,494	0
76 Kent State University	5,274	4,606	5,152i	4,336i	0	219	670	4,385
77 Iowa State University	5,258	5,272	5,640	6,144	0	3,107	2,151	0
78 Oregon State University	5,123	4,909	4,562	3,282	145	4,110	868	0
79 Case Western Reserve U	5,044	4,489	4,080	5,275	224	3,095	1,725	0
80 U of Alabama Huntsville	4,940	6,613	6,694	5,425	0	1,376	3,564	0
Total, 1st 80 institutions	1,437,348	1,399,912	1,340,135	1,348,798	173,690	427,839	677,784	158,035
81 VA Polytech Inst & St U	4,852	5,634	5,232	5,892	0	3,482	1,360	10
82 University of IL Chicago	4,840	3,881	3,671	4,309	0	2,158	2,682	0
83 Emory University	4,701	5,808	4,468	4,697	0	4,181	520	0
84 Hampton University	4,603	5,186	1,715	3,580	0	440	4,163	0
85 Rensselaer Polytech Inst	4,579	3,294i	3,576	4,067	0	2,317	1,736	526
86 Clark Atlanta University	4,562	4,903	4,789	5,768	0	2,137	2,425	0
87 U MA Lowell	4,506	5,067	4,626	4,087	0	1,897	2,609	0
88 Wayne State University	4,376	4,167	3,479	4,089	0	3,116	1,260	0
89 U of Central Florida	4,300	1,730	4,619	4,890	0	347	3,953	0
90 U of Nebraska Lincoln	4,269i	4,206	4,271	5,651	0i	2,492i	1,777i	0i
Total, 1st 90 institutions	1,482,936	1,443,788	1,380,581	1,395,828	173,690	450,406	700,269	158,571

See explanatory information and SOURCE at end of table.

Table B-51. Federally financed R&D expenditures in the physical sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 3 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Astronomy	Chemistry	Physics	Other
91 The Rockefeller Univ	4,171	3,289	3,486	3,515	0	2,735	1,436	0
92 Brown University	4,117	4,983	5,362	4,944	0	1,793	2,324	0
93 University of Houston	4,051	3,812	4,134	3,939	0	2,537	1,514	0
94 Johnson C Smith U	4,000	384	0	0	0	4,000	0	0
95 Catholic U of America	3,865	3,809	3,250	4,178	0	511	1,929	1,425
96 George Mason University	3,645	2,790	2,105	2,508	3,165	242	149	89
97 Washington State U	3,615	3,222	3,738	3,792	0	1,713	1,902	0
98 New York University	3,557	3,773	3,544	3,966	0	2,056	1,501	0
99 Howard University	3,519	6,352	5,007	4,899	2,646	698	0	175
100 Brandeis University	3,432	2,790	2,966	3,401	0	1,950	1,482	0
Total, 1st 100 institutions	1,520,908	1,478,992	1,414,173	1,430,970	179,501	468,641	712,506	160,260
Total, all other sampled insts	214,333	214,363	203,792	195,149	5,876	108,818	91,675	7,964

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-52. Total and federally financed R&D expenditures in chemistry
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	863,302	812,796	792,972	763,057	577,459	551,809	548,465	528,196
1 U CA Berkeley	20,638	18,845	14,277	15,634	14,447	15,822	12,050	13,503
2 Johns Hopkins U	18,541	9,264	5,581	5,607	18,280	8,981	5,293	5,243
3 California Inst of Tech	17,760	17,600	15,599	14,903	17,629	15,200	12,478	11,611
4 Pennsylvania State U	16,075	12,883	12,670	13,213	8,852	8,631	8,294	8,019
5 U of Illinois Urbana	13,760	13,606	12,956	10,349	7,978	8,174	7,616	6,852
6 University of Colorado	12,948	11,026	12,701	13,977	10,446	8,762	9,442	9,960
7 Purdue University	12,548	12,254	10,927	11,665	8,212	8,260	7,657	8,266
8 Stanford University	12,306	12,199	12,010	11,549	10,658	10,449	10,509	10,857
9 Cornell University	12,031	11,380	11,712	10,807	8,682	8,065	8,805	8,667
10 U WI Madison	12,011	11,437	12,910	10,948	7,695	7,693	9,318	7,947
Total, 1st 10 institutions	148,618	130,494	121,343	118,652	112,879	100,037	91,462	90,925
11 U CA Los Angeles	11,769	10,531	10,859	12,523	9,530	9,485	9,338	10,840
12 University of Florida	11,675	9,779	8,182	6,017	5,309	5,332	4,197	3,419
13 U of Pennsylvania	11,669	11,579	12,855	10,846	11,283	10,423	12,181	8,184
14 U TX Austin	11,397	11,328	11,393	11,252	7,123	6,872	6,294	6,674
15 Harvard University	11,185	9,495	11,362	13,112	10,639	8,128	10,608	12,347
16 U MA Amherst	11,131	10,650	9,322	8,454	6,240	5,894	5,320	4,897
17 MA Institute of Tech	11,050	9,440	14,856	11,489	9,201	8,823	13,735	10,219
18 Georgia Institute of Tech	10,869	10,816	8,302	8,204	4,765	5,067	4,274	4,061
19 U CA San Diego	10,297	10,175	9,683	8,646	7,717	8,720	8,118	7,473
20 University of Oklahoma	9,922	8,057	7,042	5,511	4,656	3,545	3,198	2,782
Total, 1st 20 institutions	259,582	232,344	225,199	214,706	189,342	172,326	168,725	161,821
21 Northwestern University	9,843	7,848	7,476	7,857	7,096	5,166	5,266	5,889
22 Ohio State University	9,679	9,291	10,784	11,131	5,069	6,291	7,827	9,023
23 Rutgers the State U NJ	9,622	8,130	7,523	7,202	6,790	5,763	5,467	5,304
24 Arizona State University	9,583	8,227	9,087	7,568	4,287	3,760	4,426	4,192
25 Texas A&M University	9,560	11,133	12,478	10,745	5,211	6,252	7,518	5,441
26 Princeton University	8,973	8,123	7,610	8,547	5,727	5,961	5,979	5,850
27 Columbia University	8,753	8,292	7,996	9,487	7,849	6,531	6,475	7,334
28 University of Notre Dame	8,658	7,053	8,030	8,262	7,740	6,390	7,100	7,310
29 U CA Irvine	8,425	8,908	10,127	6,762	6,218	7,429	7,529	6,177
30 U of NC Chapel Hill	8,368	7,788	7,492	6,911	5,905	5,672	6,285	5,562
Total, 1st 30 institutions	351,046	317,137	313,802	299,178	251,234	231,541	232,597	223,903
31 University of Akron	8,326	8,395	7,483	1,522	1,497	2,238	1,940	661
32 University of Chicago	8,189	8,730	7,791	7,317	6,671	7,487	6,938	6,190
33 Indiana University	7,982	10,889	9,081	9,146	6,047	7,750	6,648	7,280
34 U of Southern California	7,900	7,203	5,908	4,576	6,089	5,865	4,735	4,072
35 Florida State University	7,890	7,534	5,273	5,607	3,304	3,950	2,933	2,445
36 University of Michigan	7,820	6,834	6,007	5,574	6,230	5,058	4,449	4,109
37 Colorado State University	7,753	6,378	5,807	5,179	5,650	5,414	4,830	4,124
38 University of Minnesota	7,574	7,662	7,468	8,275	6,446	6,290	5,864	6,590
39 SUNY Buffalo	7,426	5,538	5,630	5,350	4,110	3,410	3,740	3,518
40 University of Utah	7,398	6,366	6,371	7,005	6,122	5,493	5,949	6,385
Total, 1st 40 institutions	429,304	392,666	380,621	358,729	303,400	284,496	280,623	269,277
41 U of South Carolina	7,357	4,645	6,321	5,304	4,679	3,279	5,164	3,751
42 University of Kansas	7,177	7,333	6,521	7,205	3,805	3,378	2,995	2,811
43 U of Washington	7,097	6,341	6,914	7,428	4,978	4,521	4,847	5,252
44 VA Polytech Inst & St U	7,037	7,538	6,737	7,403	3,482	4,105	3,604	4,281
45 Yale University	6,997	6,688	5,544	6,446	5,921	5,863	4,848	5,620
46 University of Rochester	6,734	6,469	7,012	6,546	6,120	6,026	6,484	5,987
47 U MD College Park	6,635	9,822	8,901	9,887	4,269	6,039	5,995	6,274
48 University of Arizona	6,588	5,045	5,601	5,380	4,882	3,400	3,912	4,126
49 SUNY Stony Brook	6,533	5,439	6,291	7,342	4,320	3,552	4,068	4,809
50 University of Georgia	6,118	6,512	6,332	6,576	1,839	2,472	2,412	2,337
Total, 1st 50 institutions	497,577	458,498	446,795	428,246	347,695	327,131	324,952	314,525

See explanatory information and SOURCE at end of table.

**Table B-52. Total and federally financed R&D expenditures in chemistry
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 University of Pittsburgh	6,097	7,316	5,904	6,764	4,765	5,968	5,234	5,668
52 Iowa State University	6,003	5,567	5,618	5,446	3,107	2,902	3,191	3,359
53 University of Virginia	5,902	6,219	5,250	5,877	4,954	5,116	4,413	4,576
54 Louisiana St U, All Camp	5,752	5,893	4,761	4,631	3,297	3,105	2,511	2,561
55 U CA Santa Barbara	5,620	4,470	5,544	5,058	4,074	4,079	4,935	4,449
56 Michigan State University	5,507	5,856	6,007	5,271	3,641	3,935	3,839	3,589
57 New York University	5,415	4,708	5,905	3,400	2,056	2,311	2,542	2,615
58 Wayne State University	5,330	4,581	4,062	4,799	3,116	2,744	2,482	2,795
59 Case Western Reserve U	5,307	3,665	3,025	2,865	3,095	2,735	2,387	2,180
60 Emory University	5,230	7,337	5,031	5,279	4,181	5,338	3,821	4,071
Total, 1st 60 institutions	553,740	514,110	497,902	477,636	383,981	365,364	360,307	350,388
61 University of Houston	5,008	4,898	5,196	4,814	2,537	2,094	2,231	2,283
62 Oregon State University	4,996	4,386	4,259	3,099	4,110	3,741	3,536	2,188
63 The Rockefeller Univ	4,963	4,001	4,282	4,802	2,735	2,156	2,321	2,370
64 Georgetown University	4,868	4,613	4,575	4,652	3,170	3,438	3,762	3,618
65 U CA Davis	4,562	3,850	3,589	3,550	3,445	3,383	3,371	3,159
66 Rice University	4,518	3,990	3,545	3,080	3,094	2,956	2,853	2,297
67 NC State University	4,507	3,267	3,444	2,755	2,288	1,859	2,532	1,376
68 Duke University	4,485	3,591	4,636	4,381	2,767	2,498	3,445	3,079
69 U CA Santa Cruz	4,448	5,520	6,439	4,472	2,710	4,038	4,564	2,631
70 North Dakota State U	4,403	4,214	3,079	4,026	2,621	933	1,680	1,547
Total, 1st 70 institutions	600,498	556,440	540,946	517,267	413,458	392,460	390,602	374,936
71 CUNY City College	4,336	4,289	3,795	3,138	3,862	3,703	3,466	3,068
72 Washington University	4,321	4,504	3,856	4,593	3,376	3,738	3,134	3,777
73 U Southern Mississippi	4,315	4,693	4,518	4,108	3,245	3,770	3,523	3,348
74 University of Delaware	4,243	4,286	3,857	4,888	2,877	2,553	2,722	3,047
75 Illinois Inst of Tech	4,211	2,369	1,883	1,435	2,270	1,232	1,808	1,333
76 University of Wyoming	4,082	4,263	2,532	2,120	1,669	1,891	1,352	1,089
77 Johnson C Smith U	4,000	384i	25i	25	4,000	384i	0	0
78 U of Tennessee System	3,963	3,841	4,331	4,080	2,433	2,163	2,620	2,375
79 Boston College	3,942	3,595	3,887	3,796	3,087	2,885	2,967	3,017
80 Texas Tech University	3,877	3,517	3,183	2,938	1,029	1,146	1,032	885
Total, 1st 80 institutions	641,788	592,181	572,813	548,388	441,306	415,925	413,226	396,875
81 U CA Riverside	3,495	3,417	3,124	3,718	2,852	3,125	2,631	3,478
82 Brown University	3,450	3,691	3,746	3,114	1,793	1,971	2,278	1,865
83 U of Iowa	3,421	3,332	2,970	3,474	2,125	1,912	1,724	2,093
84 U of Nebraska Lincoln	3,308i	3,259	3,607	5,003	2,492i	2,455	2,608	3,391
85 University of IL Chicago	3,244	4,318	3,519	3,721	2,158	2,246	2,041	2,321
86 University of New Mexico	3,109	3,042	2,730	2,038	2,157	1,571	1,935	1,451
87 Vanderbilt University	3,068	2,930	2,491	2,279	2,506	2,344	1,944	1,781
88 U of Missouri Rolla	3,061	2,837	2,672	2,526	908	1,049	643	582
89 Carnegie Mellon U	3,032	2,648	2,928	2,964	1,962	1,797	2,303	2,513
90 Oregon Grad Inst Sci Tech ...	3,020e	2,876	3,347	3,750	2,697e	2,569	2,323	2,580
Total, 1st 90 institutions	673,996	624,531	603,947	580,975	462,956	436,964	433,656	418,930

See explanatory information and SOURCE at end of table.

**Table B-52. Total and federally financed R&D expenditures in chemistry
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 SUNY Binghamton	2,970	1,937	2,698	1,890	1,257	686	1,137	841
92 Montana St U Bozeman	2,961	2,032	2,879	2,990	2,596	1,819	1,910	1,870
93 CUNY Hunter College	2,956	2,318	2,370	2,495	1,823	1,537	1,620	1,555
94 University of Oregon	2,923	2,491	2,806	2,691	2,432	2,179	2,357	2,005
95 Clemson University	2,865	2,558	2,583	3,097	896	855	856	1,073
96 U MD Baltimore County	2,855	2,215	1,744	2,287	1,917	1,792	1,609	1,793
97 Virginia Commonwealth U	2,799	2,512	3,065	2,606	1,395	1,106	1,293	1,275
98 University of Cincinnati	2,778	2,558	2,378	2,420	1,288	1,309	1,033	1,520
99 Rensselaer Polytech Inst	2,690	3,328i	3,264	3,368	2,317	2,004i	2,175	2,247
100 U of Missouri Columbia	2,670	3,138	4,458	5,061	1,181	1,103	1,056	836
Total, 1st 100 institutions	702,463	649,618	632,192	609,880	480,058	451,354	448,702	433,945
Total, all other sampled insts	160,839	163,178	160,780	153,177	97,401	100,455	99,763	94,251

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-53. Total and federally financed R&D expenditures in physics
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	1,052,914	1,044,570	975,013	979,048	804,181	811,394	751,146	756,095
1 MA Institute of Tech	83,416	90,357	74,821	77,461	75,875	84,623	67,327	71,657
2 Johns Hopkins U	74,433	71,693	74,032	74,694	73,601	70,382	72,852	73,633
3 California Inst of Tech	57,992	56,972	50,553	39,435	57,790	55,933	49,186	38,255
4 U CA Berkeley	37,263	44,069	38,998	35,132	24,014	35,612	31,842	30,275
5 Cornell University	35,255	34,248	30,405	27,008	30,184	30,323	27,473	24,785
6 U MD College Park	27,699	28,617	31,259	30,255	17,999	14,307	14,208	14,489
7 Michigan State University	24,636	22,882	21,864	19,708	16,017	14,659	14,112	13,054
8 U CA Los Angeles	20,943	22,921	10,775	12,892	13,435	16,277	9,825	11,701
9 U CA San Diego	16,504	19,238	19,636	10,157	12,873	16,673	18,025	9,437
10 U WI Madison	16,192	15,020	13,867	14,075	13,343	11,620	11,151	11,696
Total, 1st 10 institutions	394,333	406,017	366,210	340,817	335,131	350,409	316,001	298,982
11 SUNY Stony Brook	16,078	14,427	14,545	15,546	10,826	9,950	9,606	10,414
12 Princeton University	15,542	15,120	12,237	12,092	12,188	11,710	9,593	10,183
13 U TX Austin	15,293	12,013	12,008	16,119	12,278	8,635	8,801	11,519
14 U of Illinois Urbana	13,264	9,983	9,055	9,866	9,774	8,290	7,165	8,047
15 University of Michigan	13,187	13,677	11,415	12,459	9,695	9,919	8,122	7,994
16 U of Pennsylvania	12,877	14,553	11,623	12,064	12,043	11,771	10,216	10,666
17 Indiana University	12,613	14,002	16,362	15,351	10,922	11,724	13,011	12,298
18 U CA Santa Barbara	12,448	9,991	8,819	9,668	9,794	8,785	7,699	8,547
19 U of Washington	11,303	8,919	9,196	11,327	9,859	7,580	8,311	10,272
20 U MA Amherst	11,238	10,603	10,342	7,003	7,510	8,185	7,704	4,977
Total, 1st 20 institutions	528,176	529,305	481,812	462,312	440,020	446,958	406,229	393,899
21 Georgia Institute of Tech	11,097	9,568	9,682	14,636	4,865	4,482	4,984	7,246
22 NC State University	10,861	8,400	8,790	8,014	6,277	4,869	4,592	4,494
23 Duke University	10,702	9,013	8,730	8,757	10,139	8,272	8,016	8,162
24 Rutgers the State U NJ	10,639	11,667	10,873	11,110	3,747	4,553	4,147	4,251
25 U of Iowa	10,488	12,518	10,701	10,224	8,662	9,523	8,474	8,349
26 Florida State University	10,348	12,020	9,326	14,413	4,174	5,119	4,349	8,709
27 University of Colorado	9,983	9,912	10,527	11,035	8,487	8,110	8,362	8,044
28 Yale University	9,619	8,521	9,213	11,209	8,910	7,795	8,607	10,497
29 Purdue University	9,582	8,868	8,165	9,405	5,833	5,278	5,378	6,212
30 U of Central Florida	9,273	2,921	4,666	7,626	3,953	1,684	4,326	4,620
Total, 1st 30 institutions	630,768	622,713	572,485	568,741	505,067	506,643	467,464	464,483
31 U CA Irvine	9,068	9,791	10,204	8,308	6,140	7,611	8,715	7,388
32 Harvard University	8,957	9,837	10,365	10,932	8,883	9,430	9,583	10,259
33 Ohio State University	8,725	8,502	8,509	8,207	5,188	5,583	5,503	5,152
34 University of Chicago	8,112	8,435	9,365	10,205	7,567	7,632	8,696	9,014
35 University of Florida	8,025	5,573	5,627	4,917	3,904	2,952	2,421	2,087
36 Vanderbilt University	7,657	5,695	5,417	5,218	6,537	4,929	5,041	4,907
37 U of Tennessee System	7,623	7,289	6,872	7,981	4,742	4,457	4,254	4,666
38 U of Alaska Fairbanks	7,599 i	6,991 i	7,229 i	7,939 i	4,922 i	4,393 i	4,740 i	5,820 i
39 University of New Mexico	7,409	4,367	3,527	3,310	5,840	3,456	2,572	2,386
40 Louisiana St U, All Camp	7,155	7,114	5,838	5,934	4,718	4,116	3,539	3,445
Total, 1st 40 institutions	711,098	696,307	645,438	641,692	563,508	561,202	522,528	519,607
41 University of Minnesota	7,054	7,317	6,416	5,865	5,948	6,545	5,604	5,029
42 Texas A&M University	6,963	6,691	6,097	8,641	3,862	4,152	3,544	4,342
43 Pennsylvania State U	5,532	7,139	7,988	7,659	2,962	4,507	5,354	5,213
44 U CA Santa Cruz	5,511	4,293	5,353	3,707	4,202	3,724	4,333	3,401
45 Wayne State University	5,447	4,777	4,587	5,029	1,260	1,423	997	1,294
46 Kansas State University	5,394	4,819	3,772	3,914	4,478	3,952	3,451	3,583
47 University of IL Chicago	5,353	3,249	2,934	3,504	2,682	1,635	1,630	1,988
48 University of Rochester	5,259	5,970	5,207	5,635	4,774	5,553	4,991	5,480
49 SUNY Albany	4,903	3,356	2,954	2,333	1,631	955	761	611
50 Carnegie Mellon U	4,879	5,077	4,506	4,242	3,696	3,662	3,705	3,445
Total, 1st 50 institutions	767,393	748,995	695,252	692,221	599,003	597,310	556,898	553,993

See explanatory information and SOURCE at end of table.

**Table B-53. Total and federally financed R&D expenditures in physics
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 U CA Davis	4,829	3,231	3,481	5,949	3,687	2,975	3,117	5,223
52 U of Alabama Huntsville	4,730	5,807	5,302	4,795	3,564	4,715	3,944	3,138
53 University of Virginia	4,637	4,433	4,848	5,835	4,235	4,126	4,492	4,548
54 Washington University	4,621	4,463	4,512	4,401	3,394	3,440	3,138	3,153
55 Brown University	4,555	5,359	5,045	4,904	2,324	3,012	3,084	3,079
56 Northwestern University	4,535	4,064	4,352	4,296	3,568	3,426	3,411	3,513
57 Hampton University	4,502	5,311	1,625	3,691	4,163	5,086	1,625	3,495
58 University of Notre Dame	4,500	4,329	3,502	4,131	3,670	3,294	2,844	3,157
59 Arizona State University	4,498	4,599	5,033	4,585	3,370	3,449	3,754	3,513
60 Boston University	4,440	4,466	5,116	8,171	4,033	4,299	4,622	7,152
Total, 1st 60 institutions	813,240	795,057	738,068	742,979	635,011	635,132	590,929	593,964
61 University of Oregon	4,402	4,215	4,499	4,252	3,602	3,363	3,576	3,369
62 University of Arizona	4,371	20,525	16,666	14,953	3,288	12,386	9,679	8,606
63 Columbia University	4,326	3,288	2,611	3,190	2,414	3,084	2,360	2,952
64 U of South Carolina	4,298	3,992	3,384	2,299	2,557	2,275	2,584	1,684
65 Stanford University	4,060	4,490	4,106	4,016	3,836	4,151	3,959	3,760
66 University of Georgia	3,943	2,904	3,269	3,519	1,155	767	1,191	1,212
67 CUNY City College	3,937	4,660	4,425	4,012	2,821	3,383	3,440	3,185
68 Syracuse University	3,882	3,501 i	3,416	2,411	3,870	2,967 i	2,263	1,990
69 Oklahoma State University ...	3,765	2,961	3,807	3,522	1,798	1,327	989	1,099
70 Montana St U Bozeman	3,721	2,886	4,344	2,633	2,759	2,234	2,244	1,595
Total, 1st 70 institutions	853,945	848,479	788,595	787,786	663,111	671,069	623,214	623,416
71 University of Utah	3,707	5,719	3,141	2,906	3,036	5,221	2,863	2,589
72 Iowa State University	3,596	3,872	3,789	4,109	2,151	2,370	2,449	2,785
73 Northeastern University	3,516	2,565	1,896	2,252	3,339	2,479	1,855	2,185
74 U TX MD Anderson Cncr	3,445	2,395	2,538	3,009	2,583	1,948	1,858	2,287
75 U of NC Chapel Hill	3,382	2,572	2,268	2,275	2,276	1,527	1,490	1,407
76 U Mississippi, All Camp	3,254	2,841	2,782	3,019	2,635	2,345	2,231	2,279
77 University of Pittsburgh	3,141	3,340	3,682	4,411	2,801	2,796	3,212	3,721
78 U TX Dallas	3,108	3,995	3,819	3,901 i	2,060	2,117	977	2,352 i
79 U MA Lowell	3,106	3,346	2,912	2,914	2,609	2,964	2,493	2,407
80 U CA Riverside	3,021	2,731	2,351	1,227	2,494	2,455	2,317	1,207
Total, 1st 80 institutions	887,221	881,855	817,773	817,809	689,095	697,291	644,959	646,635
81 U of Southern California	2,990	2,724	3,196	3,164	2,572	2,378	2,717	2,655
82 SUNY Buffalo	2,953	1,566	1,635	2,433	937	774	924	1,272
83 Ohio University	2,908	2,260	1,603	1,805	2,148	1,686	1,035	1,018
84 Clemson University	2,904	2,242	2,629	3,426	909	750	871	1,188
85 Clark Atlanta University	2,800	2,331	2,780	2,949	2,425	2,285	2,233	2,890
86 University of Kentucky	2,772	1,908	1,786	1,938	1,760	1,636	1,729	1,566
87 University of Houston	2,762	2,895	3,470	3,098	1,514	1,718	1,903	1,656
88 Colorado State University	2,644	2,515	2,176	1,629	1,868	2,124	1,672	1,271
89 Rice University	2,604	2,432	2,398	2,610	2,408	2,249	2,197	2,369
90 Case Western Reserve U	2,581	2,291	2,406	3,619	1,725	1,735	1,676	3,078
Total, 1st 90 institutions	915,139	905,019	841,852	844,480	707,361	714,626	661,916	665,598

See explanatory information and SOURCE at end of table.

**Table B-53. Total and federally financed R&D expenditures in physics
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 Colorado School of Mines	2,520	2,568	1,684	1,270 i	2,069	2,160	1,170	966 i
92 University of Oklahoma	2,479	2,325	2,633	2,304	1,423	1,387	1,318	1,328
93 U Arkansas Main	2,456	2,708	2,030	1,322	1,195	1,367	1,000	614
94 Col of William & Mary	2,429	2,464	2,906	2,624	2,122	2,106	2,447	2,316
95 Fisk University	2,323	1,651 i	1,651	1,541 i	2,323	1,651 i	1,651	1,484 i
96 Washington State U	2,272	2,178	2,616	2,907	1,902	1,835	2,235	2,089
97 University of Denver	2,233	2,032	1,886	2,392	1,740	1,590	1,483	1,934
98 US Naval Postgrad School ...	2,170 i	2,058	2,547 i	2,232	2,087 i	1,982	2,377 i	2,160
99 U of Nebraska Lincoln	2,159 i	2,128	2,175	2,737	1,777 i	1,751	1,663	2,253
100 University of Connecticut	2,108	2,167	1,958	1,725	1,236	1,042	1,074	835
Total, 1st 100 institutions	938,288	927,298	863,938	865,534	725,235	731,497	678,334	681,577
Total, all other sampled insts	114,626	117,272	111,075	113,514	78,946	79,897	72,812	74,518

NOTE: Because of rounding, detail may not add to totals.

KEY:

- = not available
- e = estimated
- i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-54. R&D expenditures in the environmental sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Atmospheric	Earth sciences	Oceanography	Other
Total, all institutions	1,615,099	1,522,645	1,481,917	1,427,351	268,820	506,354	544,748	295,177
1 U CA San Diego	100,882	106,031	109,260	109,375	5,992	24,645	70,245	0
2 University of Colorado	74,325	48,055	40,719	42,165	40,168	32,047	1,752	358
3 Texas A&M University	69,912	70,605	71,841	85,163	2,702	3,698	60,892	2,620
4 Woods Hole Oceanograph	62,995	61,516	58,702	62,692	4,488i	21,144i	16,300i	21,063i
5 U of Washington	61,755	54,545	58,398	54,040	12,676	6,593	42,486	0
6 Univ of Hawaii Manoa	48,594	37,975	36,334	8,207	797	12,242	25,401	10,154
7 Johns Hopkins U	43,528	32,187	30,178	32,787	10,749i	2,525i	17,168i	13,086i
8 Columbia University	43,154	36,811	37,387	40,329	0	4,484	0	38,670
9 U of Alaska Fairbanks	33,814i	31,441 i	32,044i	33,732i	1,171i	12,899i	19,626i	118i
10 University of Miami	31,067	27,480	28,375	27,731	18,658	56	11,389	964
Total, 1st 10 institutions	570,026	506,646	503,238	496,221	97,401	120,333	265,259	87,033
11 Oregon State University	30,233	27,642	24,779	26,326	1,590	1,303	23,469	3,871
12 VA Polytech Inst & St U	29,232	32,709	31,786	35,163	0	2,540	0	26,692
13 U of New Hampshire	25,772	25,167	26,305	20,901	9,010	2,099	7,084	7,579
14 U of Illinois Urbana	25,602	26,017	27,238	26,859	2,674	21,173	0	1,755
15 U WI Madison	24,864	25,176	23,908	24,423	14,627	3,004	3,041	4,192
16 University of Michigan	24,737	27,112	22,940	21,330	12,777	4,483	2,503	4,974
17 U MD Ctr for Environ Sci	24,038	21,377	21,448	21,100	0	1,886	22,152	0
18 Pennsylvania State U	23,552	25,010	23,222	25,267	5,959	8,041	0	9,552
19 University of Oklahoma	23,374	18,760	16,832	13,088	16,252	7,122	0	0
20 Louisiana St U, All Camp	22,684	21,738	23,221	22,694	0	4,783	14,271	3,630
Total, 1st 20 institutions	824,114	757,354	744,917	733,372	160,290	176,767	337,779	149,278
21 U TX Austin	19,477	26,568	26,030	23,689	0	15,574	3,435	468
22 U of Rhode Island	19,105	22,231 i	22,249 i	22,109 i	0	54	19,051	0
23 Col of William & Mary	18,538	16,684	16,700	12,438	0	187	18,351	0
24 California Inst of Tech	18,285	16,710	15,444	14,402	0	15,770	0	2,515
25 U CA Santa Barbara	16,853	14,427	12,405	10,538	0	2,765	13,709	379
26 NC State University	16,743	14,091	11,818	11,825	1,481	169	10,971	4,122
27 SUNY Stony Brook	16,566	19,394	17,501	16,603	2,171	4,962	9,433	0
28 MA Institute of Tech	15,900	15,068	14,361	14,251	318	13,197	2,385	0
29 Florida State University	15,775	16,126	14,683	11,507	5,592	1,513	4,830	3,840
30 Rutgers the State U NJ	14,668	14,486	13,296	12,368	12	655	6,365	7,636
Total, 1st 30 institutions	996,024	933,139	909,404	883,102	169,864	231,613	426,309	168,238
31 Colorado State University	14,656	12,366	12,853	12,554	13,466	1,190	0	0
32 Georgia Institute of Tech	14,505	11,191	12,696	8,617	184	9,946	0	4,375
33 Desert Research Institute	14,400	13,400	13,500	15,768	3,400	5,900	0	5,100
34 U of South Florida	14,243	12,919	11,631	17,144	0	1,482	12,760	1
35 U of Southern California	14,202	12,501	13,067	12,997	8	11,371	1,837	986
36 U of South Carolina	13,496	13,405	8,704	13,804	0	7,664	3,324	2,508
37 Harvard University	13,271	9,871	11,595	10,164	0i	13,212i	59i	0i
38 U of Nebraska Lincoln	11,863i	11,687	8,775	7,699	3,818i	8,045i	0i	0i
39 U of Tennessee System	11,609	12,989	13,086	14,591	0	1,649	0	9,960
40 U CA Santa Cruz	11,390	9,476	11,504	9,921	0	3,345	6,425	1,620
Total, 1st 40 institutions	1,129,659	1,052,944	1,026,815	1,006,361	190,740	295,417	450,714	192,788
41 University of Georgia	11,229	10,107	9,885	9,186	0	3,912	7,317	0
42 Utah State University	11,134	13,629	12,990	8,435	5,889	5,245	0	0
43 University of Minnesota	10,824	9,929	10,447	10,014	0	5,361	943	4,520
44 University of Wyoming	10,387	11,650	8,640	9,355	3,133	4,180	0	3,074
45 U of Maine	10,269	8,734	6,122	6,864	0	4,594	5,675	0
46 U of NC Chapel Hill	10,127	9,884	9,516	10,289	0	5,934	4,109	84
47 University of Arizona	10,067	10,742	9,156	8,867	4,146	5,921	0	0
48 Ohio State University	9,481	9,424	9,878	8,627	0	4,875	0	4,606
49 University of Kansas	9,463	9,574	9,360	8,422	0	8,934	0	529
50 San Jose State University	9,427e	9,427i	9,427i	9,427i	906e	380e	8,141e	0e
Total, 1st 50 institutions	1,232,067	1,156,044	1,122,236	1,095,847	204,814	344,753	476,899	205,601

See explanatory information and SOURCE at end of table.

**Table B-54. R&D expenditures in the environmental sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Atmospheric	Earth sciences	Oceanography	Other
51 U CA Riverside	9,394	2,884	4,259	2,422	0	3,083	0	6,311
52 University of Connecticut	9,224	7,074	8,516	8,383	0	412	8,812	0
53 Princeton University	8,816	8,657	8,871	8,042	2,245	5,715	0	856
54 NJ Inst of Technology	8,532	8,424	9,540	7,298	0	0	0	8,532
55 U of Central Florida	8,353	0	0	2	8,353	0	0	0
56 U MD College Park	8,331	10,195	10,426	9,624	6,970	1,361	0	0
57 US Naval Postgrad School	8,218 <i>i</i>	7,792	5,068 <i>i</i>	4,510	4,850 <i>i</i>	0 <i>i</i>	3,368 <i>i</i>	0 <i>i</i>
58 Clark Atlanta University	8,187	7,460	9,020	9,013	0	1,701	0	6,486
59 University of Delaware	8,180	9,930	8,205	7,912	0	512	7,668	0
60 U CA Los Angeles	8,060	7,190	15,086	15,080	3,929	3,274	0	857
Total, 1st 60 institutions	1,317,362	1,225,650	1,201,227	1,168,133	231,161	360,811	496,747	228,643
61 Stanford University	8,025	7,159	6,294	7,772	0	6,213	1,812	0
62 U MD Biotechnology Inst	7,917	6,929	6,157	5,281	0	0	7,917	0
63 University of Chicago	7,742	7,009	4,790	5,198	70	7,672	0	0
64 Rice University	7,585	11,203	8,016	4,904	0	1,412	0	6,173
65 Duke University	7,554	6,485	2,970	2,962	0	1,315	2,106	4,133
66 U MA Amherst	7,143	9,564	6,042	5,735	0	5,454	0	1,689
67 University of Florida	6,709	3,890	3,660	3,055	5	2,796	3,908	0
68 U CA Davis	6,547	7,032	5,633	1,492	0	1,508	4,915	124
69 U of Nevada Las Vegas	6,331	5,150	5,611 <i>i</i>	5,625	0	972	0	5,359
70 SUNY Albany	6,152	6,534	6,741	5,775	6,152	0	0	0
Total, 1st 70 institutions	1,389,067	1,296,605	1,257,141	1,215,932	237,388	388,153	517,405	246,121
71 U CA Berkeley	5,755	4,912	5,232	4,809	0	5,707	0	48
72 U of NC at Wilmington	5,469	6,548 <i>i</i>	6,262 <i>i</i>	5,977 <i>i</i>	104	359	5,006	0
73 Old Dominion University	5,380	5,604	5,559	5,135	35	3	3,128	2,214
74 Brown University	5,372	5,275	5,341	4,877	0 <i>i</i>	5,162 <i>i</i>	0 <i>i</i>	210 <i>i</i>
75 U of Alabama Huntsville	5,177	6,218	6,246	7,121	5,177	0	0	0
76 Arizona State University	5,154	4,900	7,166	7,156	0	5,154	0	0
77 University of Idaho	5,112	2,884 <i>i</i>	2,814	2,511	0	2,754	0	2,358
78 New Mexico State Univ	5,053	5,724	6,046	7,378	3,271	598	0	1,184
79 Oregon Grad Inst Sci Tech	4,964 <i>e</i>	4,728	3,388	3,128	742 <i>e</i>	0	0	4,222 <i>e</i>
80 NM Inst Mining & Tech	4,868	4,818	3,709	3,829	0	3,839	0	1,029
Total, 1st 80 institutions	1,441,371	1,348,216	1,308,904	1,267,853	246,717	411,729	525,539	257,386
81 University of Virginia	4,783	4,105	3,794	4,567	4,783	0	0	0
82 U PR Mayaguez	4,601	4,894	4,707	2,439	0	1,099	3,502	0
83 U of Nevada Reno	4,476	6,130	7,522	4,922	237	2,906	0	1,333
84 Cornell University	4,101	3,670	3,858	4,431	0	2,613	0	1,488
85 Mississippi State U	4,060	2,887	2,900	2,940	0	32	36	3,992
86 University of Utah	4,057	4,074	3,820	4,255	2,260	1,797	0	0
87 Tarleton State University	3,659	2,638	2,923	2,425	0	3,659	0	0
88 Purdue University	3,614	3,609	4,175	2,218	1,468	734	0	1,412
89 U MA Lowell	3,530	2,795	24	7	0	3,530	0	0
90 Boston University	3,473	2,214	1,205	1,264	0	248	0	3,225
Total, 1st 90 institutions	1,481,725	1,385,232	1,343,832	1,297,321	255,465	428,347	529,077	268,836

See explanatory information and SOURCE at end of table.

**Table B-54. R&D expenditures in the environmental sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Atmospheric	Earth sciences	Oceanography	Other
91 Washington University	3,420	3,295	3,167	3,302	0	3,420	0	0
92 U WI Milwaukee	3,325	3,246	3,301	3,222	0	302	2,902	121
93 The University of Memphis ...	2,916	3,018	3,379	2,950	0	2,916	0	0
94 University of Oregon	2,782	2,298	1,924	1,412	0	1,609	619	554
95 Sam Houston State U	2,695i	4,472	4,173	2,591i	0i	2,695i	0i	0i
96 U Arkansas Main	2,632	2,370	2,729	2,396	0	2,632	0	0
97 SD Sch of Mines & Tech	2,586	2,752	2,911	3,024	2,586	0	0	0
98 U Southern Mississippi	2,535	1,619	2,130	1,743	0	287	2,087	161
99 West Virginia University	2,348	7,452	6,879	6,636	0	730	0	1,618
100 SUNY Col Env Sci Frstry	2,283i	2,122i	2,265i	2,251i	1,267i	173i	391i	452i
Total, 1st 100 institutions	1,509,247	1,417,876	1,376,690	1,326,848	259,318	443,111	535,076	271,742
Total, all other sampled insts	105,852	104,769	105,227	100,503	9,502	63,243	9,672	23,435

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-55. Federally financed R&D expenditures in the environmental sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 1 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Atmospheric	Earth sciences	Oceanography	Other
Total, all institutions	1,068,136	1,025,833	1,002,446	958,126	209,128	305,026	361,707	192,275
1 University of Colorado	62,358	38,706	32,039	30,111	34,623	26,465	947	323
2 U CA San Diego	60,215	76,090	83,625	85,462	4,363	10,987	44,865	0
3 U of Washington	58,248	51,175	55,434	51,187	11,941	6,318	39,989	0
4 Woods Hole Oceanograph	55,669	53,997	50,334	56,995 <i>i</i>	3,785 <i>i</i>	19,497 <i>i</i>	14,141 <i>i</i>	18,246 <i>i</i>
5 Texas A&M University	52,659	53,790	54,241	60,580	2,201	822	48,219	1,417
6 Johns Hopkins U	42,063	29,605	29,088	31,712	10,735 <i>i</i>	2,404 <i>i</i>	17,168 <i>i</i>	11,756 <i>i</i>
7 Columbia University	40,462	35,871	34,634	38,525	0	4,158	0	36,304
8 Univ of Hawaii Manoa	33,624	27,482	25,969	4,270	606	7,589	17,732	7,697
9 VA Polytech Inst & St U	27,820	31,202	29,860	32,322	0	1,128	0	26,692
10 University of Miami	27,452	24,387	23,795	23,740	16,672	25	10,066	689
Total, 1st 10 institutions	460,570	422,305	419,019	414,904	84,926	79,393	193,127	103,124
11 Oregon State University	25,699	24,576	23,016	21,968	1,525	988	20,364	2,822
12 University of Michigan	18,623	19,134	17,551	15,456	10,610	2,514	1,661	3,838
13 U of Rhode Island	18,314	21,188 <i>i</i>	20,639 <i>i</i>	20,112 <i>i</i>	0	0	18,314	0
14 U of Alaska Fairbanks	17,767 <i>i</i>	15,862 <i>i</i>	17,114 <i>i</i>	21,022 <i>i</i>	1,171 <i>i</i>	8,432 <i>i</i>	8,129 <i>i</i>	35 <i>i</i>
15 U WI Madison	17,243	17,798	16,228	16,840	12,685	1,597	800	2,161
16 California Inst of Tech	16,912	15,512	14,065	12,858	0	15,011	0	1,901
17 U of New Hampshire	15,315	15,048	15,206	12,517	4,349	1,678	3,544	5,744
18 MA Institute of Tech	14,147	13,679	10,993	10,306	261	11,931	1,955	0
19 Harvard University	12,839	6,906	8,452	7,383	0 <i>i</i>	12,839 <i>i</i>	0 <i>i</i>	0 <i>i</i>
20 Pennsylvania State U	12,290	14,726	13,128	15,267	4,088	4,388	0	3,814
Total, 1st 20 institutions	629,719	586,734	575,411	568,633	119,615	138,771	247,894	123,439
21 U CA Santa Barbara	11,458	10,214	8,987	7,590	0	1,495	9,634	329
22 University of Oklahoma	11,419	8,745	7,149	6,137	9,416	2,003	0	0
23 SUNY Stony Brook	11,187	13,676	11,468	9,429	1,648	3,622	5,917	0
24 Colorado State University	10,630	10,744	10,331	10,081	9,959	671	0	0
25 U of South Florida	10,314	9,058	8,212	11,426	0	995	9,319	0
26 U of Southern California	10,277	10,362	10,695	10,472	8	8,297	1,379	593
27 Florida State University	9,725	11,015	9,084	6,184	4,406	471	2,412	2,436
28 Desert Research Institute	9,300	8,400	8,600	10,066	2,300	4,700	0	2,300
29 U of Nebraska Lincoln	8,821 <i>i</i>	8,690	6,328	5,131	2,437 <i>i</i>	6,384 <i>i</i>	0 <i>i</i>	0 <i>i</i>
30 US Naval Postgrad School	8,029 <i>i</i>	7,621	4,866 <i>i</i>	4,424	4,793 <i>i</i>	0 <i>i</i>	3,236 <i>i</i>	0 <i>i</i>
Total, 1st 30 institutions	730,879	685,259	661,131	649,573	154,582	167,409	279,791	129,097
31 U MD Ctr for Environ Sci	7,440	6,240	5,998	5,952	0	239	7,201	0
32 Rice University	7,285	10,936	7,127	3,609	0	1,304	0	5,981
33 Col of William & Mary	6,828	6,339	7,286	6,392	0	152	6,676	0
34 U of Tennessee System	6,744	7,835	8,343	9,615	0	1,043	0	5,701
35 U MD College Park	6,704	6,246	6,853	6,276	5,710	994	0	0
36 Utah State University	6,682	9,570	8,880	4,064	5,197	1,485	0	0
37 NC State University	6,654	5,294	6,164	5,173	1,320	73	5,261	0
38 Clark Atlanta University	6,637	6,220	6,072	883	0	1,202	0	5,435
39 U TX Austin	6,537	8,483	10,274	10,228	0	3,647	2,422	468
40 U of Illinois Urbana	6,480	5,637	6,658	7,317	2,078	4,006	0	396
Total, 1st 40 institutions	798,870	758,059	734,786	709,082	168,887	181,554	301,351	147,078
41 University of Chicago	6,420	6,055	3,999	4,598	33	6,387	0	0
42 Georgia Institute of Tech	6,359	5,244	6,536	4,266	81	4,360	0	1,918
43 Ohio State University	6,145	6,337	6,641	5,127	0	2,867	0	3,278
44 Rutgers the State U NJ	6,082	5,931	4,946	4,425	0	414	4,819	849
45 U of South Carolina	6,062	6,533	6,033	5,472	0	3,038	1,542	1,482
46 U of NC Chapel Hill	6,048	5,616	6,299	6,183	0	4,542	1,506	0
47 University of Arizona	5,990	5,464	4,837	4,505	2,559	3,431	0	0
48 Stanford University	5,920	5,796	4,936	6,299	0	4,621	1,299	0
49 Louisiana St U, All Camp	5,886	6,947	7,585	7,280	0	929	4,252	705
50 Princeton University	5,815	5,991	5,696	4,961	1,783	3,278	0	754
Total, 1st 50 institutions	859,597	817,973	792,294	762,198	173,343	215,421	314,769	156,064

See explanatory information and SOURCE at end of table.

Table B-55. Federally financed R&D expenditures in the environmental sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 2 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Atmospheric	Earth sciences	Oceanography	Other
51 University of Delaware	5,596	6,633	6,043	5,323	0	264	5,332	0
52 U CA Los Angeles	5,573	5,840	9,948	9,790	3,206	1,842	0	525
53 U CA Santa Cruz	5,515	6,504	8,231	7,765	0	2,099	3,177	239
54 U of Maine	5,085	3,718	3,524	3,481	0	1,711	3,374	0
55 U MD Biotechnology Inst	4,995	4,104	3,423	2,966	0	0	4,995	0
56 Arizona State University	4,721	4,311	6,748	6,770	0	4,721	0	0
57 University of Minnesota	4,587	3,976	4,486	3,897	0	2,645	612	1,330
58 University of Wyoming	4,453	3,393	3,933	3,926	2,345	1,804	0	304
59 San Jose State University	4,363e	4,363i	4,363i	4,363i	714e	132e	3,517e	0e
60 U of Nevada Las Vegas	4,328	3,560	4,153i	3,899	0	875	0	3,453
Total, 1st 60 institutions	908,813	864,375	847,146	814,378	179,608	231,514	335,776	161,915
61 U of Alabama Huntsville	4,165	5,137	5,274	6,207	4,165	0	0	0
62 New Mexico State Univ	4,151	4,210	3,904	5,611	2,912	285	0	954
63 University of Virginia	4,048	3,349	3,107	3,717	4,048	0	0	0
64 NJ Inst of Technology	4,014	4,496	4,610	3,053	0	0	0	4,014
65 Oregon Grad Inst Sci Tech	3,997e	3,807	1,429	1,150	708e	0	0	3,289e
66 Brown University	3,718	3,637	3,869	3,689	0i	3,685i	0i	33i
67 University of Connecticut	3,689	2,703	3,425	3,652	0	325	3,364	0
68 University of Georgia	3,683	3,231	2,888	2,673	0	606	3,077	0
69 U of NC at Wilmington	3,321	3,995i	4,104i	4,211i	21	186	3,114	0
70 Duke University	3,235	3,012	2,057	2,262	0	947	1,024	1,264
Total, 1st 70 institutions	946,834	901,952	881,813	850,603	191,462	237,548	346,355	171,469
71 U CA Riverside	3,200	1,887	2,425	1,481	0	1,607	0	1,593
72 U MA Lowell	3,109	2,059	23	7	0	3,109	0	0
73 University of Utah	3,097	2,993	2,835	3,071	2,059	1,038	0	0
74 U PR Mayaguez	3,051	3,555	4,424	1,883	0	950	2,101	0
75 U MA Amherst	2,967	4,734	2,373	2,189	0	2,605	0	362
76 Mississippi State U	2,677	2,155	2,496	2,496	0	0	0	2,677
77 U of Nevada Reno	2,650	3,978	3,967	4,363	77	2,571	0	2
78 SUNY Albany	2,619	3,129	3,324	3,284	2,619	0	0	0
79 Washington University	2,594	2,537	2,666	2,532	0	2,594	0	0
80 Boston University	2,560	1,562	833	966	0	207	0	2,353
Total, 1st 80 institutions	975,358	930,541	907,179	872,875	196,217	252,229	348,456	178,456
81 U CA Berkeley	2,496	2,731	3,043	3,120	0	2,492	0	4
82 University of Idaho	2,451	498i	472	654	0	710	0	1,741
83 Purdue University	2,411	2,386	2,840	1,402	946	473	0	992
84 U Southern Mississippi	2,358	1,541	2,024	1,405	0	286	1,911	161
85 Old Dominion University	2,333	2,448	1,858	1,324	35	0	2,210	88
86 University of Oregon	2,307	1,924	1,565	1,158	0	1,228	549	530
87 University of Kansas	2,173	2,047	2,275	1,144	0	1,696	0	477
88 Cornell University	2,170	2,118	2,366	2,726	0	1,693	0	477
89 Sam Houston State U	2,155i	4,237	3,800	2,344i	0i	2,155i	0i	0i
90 U of Central Florida	2,117	0	0	0	2,117	0	0	0
Total, 1st 90 institutions	998,329	950,471	927,422	888,152	199,315	262,962	353,126	182,926

See explanatory information and SOURCE at end of table.

Table B-55. Federally financed R&D expenditures in the environmental sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 3 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Atmospheric	Earth sciences	Oceanography	Other
91 University of Florida	2,073	1,475	1,134	1,231	0	968	1,105	0
92 U CA Davis	2,048	4,604	3,528	1,392	0	928	1,115	5
93 NM Inst Mining & Tech	1,954	2,119	1,323	1,274	0	1,954	0	0
94 Yale University	1,840	1,770	1,836	1,527	393	1,266	14	167
95 Southern Methodist U	1,726	842	2,489	1,419	0	1,726	0	0
96 SD Sch of Mines & Tech	1,712	2,068	2,186	2,526	1,712	0	0	0
97 U CA Irvine	1,539	1,963	1,788	1,349	0	1,539	0	0
98 U WI Milwaukee	1,499	1,465	1,435	1,263	0	191	1,307	1
99 Tarleton State University	1,483	1,177	911	645	0	1,483	0	0
100 Portland State University	1,479	1,137	1,266	1,403	153	170	1,002	154
Total, 1st 100 institutions	1,015,682	969,091	945,318	902,181	201,573	273,187	357,669	183,253
Total, all other sampled insts	52,454	56,742	57,128	55,945	7,555	31,839	4,038	9,022

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-56. Total and federally financed R&D expenditures in the mathematical sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	307,939	287,337	286,030	276,512	212,462	201,788	206,635	203,371
1 Johns Hopkins U	29,293	34,207	38,508	37,420	29,271	34,171	38,447	37,382
2 U TX Austin	15,683	7,242	3,471	2,398	10,156	3,980	895	1,790
3 George Washington U	13,477	10,272	7,205	6,080	11,537	7,653	6,529	5,721
4 Rutgers the State U NJ	10,335	7,048	6,803	7,294	6,266	3,207	3,064	3,412
5 NC State University	9,088	7,454	5,798	4,431	3,444	3,361	2,669	2,168
6 U of South Carolina	8,501	7,047	7,088	5,842	1,986	2,209	3,660	2,695
7 Boston College	7,951	6,776	6,675	6,354	6,331	5,667	5,744	5,078
8 Brown University	7,499	6,703	6,033	6,033	4,675	4,391	3,938	4,126
9 University of Minnesota	5,965	5,997	6,676	6,158	4,844	4,945	5,960	5,206
10 New York University	5,828	3,377	3,310	3,602	5,570	3,251	3,167	3,403
Total, 1st 10 institutions	113,620	96,123	91,567	85,612	84,080	72,835	74,073	70,981
11 Iowa State University	5,771	5,885	6,469	5,203	2,727	2,746	3,026	2,024
12 University of Florida	4,676	3,703	2,517	2,539	2,739	2,401	2,190	1,841
13 U CA Berkeley	4,602	5,194	4,832	4,962	3,858	4,737	4,471	4,684
14 SUNY Stony Brook	4,575	5,165	4,119	4,150	3,002	3,149	2,641	2,547
15 Georgia Institute of Tech	4,403	4,014	4,155	2,956	1,931	1,881	2,139	1,464
16 University of Georgia	4,362	4,464	3,750	3,424	578	748	581	553
17 U CA Los Angeles	4,226	3,597	3,213	4,059	3,505	2,998	3,145	3,932
18 Stanford University	4,049	3,219	3,402	2,825	3,804	2,993	3,224	2,730
19 Purdue University	3,762	3,626	3,788	3,737	1,869	2,022	2,020	2,042
20 Carnegie Mellon U	3,671	2,868	3,179	2,724	3,015	2,396	2,540	2,190
Total, 1st 20 institutions	157,717	137,858	130,991	122,191	111,108	98,906	100,050	94,988
21 U of Washington	3,247	2,639	2,627	2,774	3,000	2,501	2,440	2,432
22 U WI Madison	3,180	3,052	3,061	3,027	1,832	1,939	2,060	2,067
23 University of Michigan	3,127	3,050	3,399	2,785	2,230	2,393	1,730	1,980
24 University of Arizona	3,121	2,850	2,897	3,818	2,270	2,060	2,151	2,783
25 US Naval Postgrad School ...	3,048 <i>i</i>	2,891	3,882 <i>i</i>	3,511	3,021 <i>i</i>	2,867	3,845 <i>i</i>	3,495
26 Boston University	3,042	2,347	2,612	2,350	2,857	2,265	2,521	2,318
27 Pennsylvania State U	2,986	3,092	2,576	2,338	1,832	1,974	1,836	1,447
28 VA Polytech Inst & St U	2,973	2,788	2,474	2,476	1,958	1,831	1,374	1,311
29 Western Michigan U	2,759	2,442	2,089	1,704	1,842	1,575	1,339	1,007
30 U TX MD Anderson Cnrc	2,715	2,733	2,559	2,449	144	230	227	219
Total, 1st 30 institutions	187,915	165,742	159,167	149,423	132,094	118,541	119,573	114,047
31 Texas A&M University	2,600	1,846	1,570	1,850	1,674	1,377	1,156	1,169
32 MA Institute of Tech	2,469	3,529	3,880	2,727	2,303	3,104	3,200	2,463
33 Cornell University	2,448	3,000	2,942	3,031	1,547	2,445	2,656	2,668
34 Yale University	2,439	1,503	1,365	1,688	2,305	1,342	1,247	1,584
35 Rice University	2,392	2,241	2,335	1,929	2,253	1,858	1,760	1,153
36 Clemson University	2,265	1,922	2,424	1,715	710	642	803	595
37 U CA Santa Barbara	2,157	2,015	1,652	1,373	1,672	1,552	1,143	971
38 U of Alabama Huntsville	2,085	966	1,231	1,095	1,453	557	712	674
39 U of Southern California	2,043	2,372	1,868	1,613	1,846	2,123	1,657	1,351
40 U of Illinois Urbana	2,023	1,598	1,832	1,590	1,037	851	973	809
Total, 1st 40 institutions	210,836	186,734	180,266	168,034	148,894	134,392	134,880	127,484
41 University of IL Chicago	1,944	3,556	2,981	1,725	1,292	2,583	2,135	1,090
42 University of Colorado	1,875	1,606	2,149	2,339	1,417	1,198	1,751	1,715
43 Princeton University	1,791	2,057	2,588	3,760	1,448	1,364	1,552	2,839
44 U MA Amherst	1,788	1,527	1,791	2,159	1,167	1,146	1,366	1,572
45 Florida State University	1,772	982	848	884	995	812	660	653
46 The University of Montana	1,562	1,859	2,608	2,301	1,436	1,849	2,553	2,014
47 Colorado School of Mines	1,561	1,485	2,022	1,412 <i>i</i>	486	446	529	376 <i>i</i>
48 Louisiana St U, All Camp	1,550	1,926	1,536	1,429	307	433	421	451
49 University of Delaware	1,527	1,591	728	601	1,184	1,201	666	514
50 University of Chicago	1,519	1,576	1,558	1,807	1,444	1,430	1,444	1,664
Total, 1st 50 institutions	227,725	204,899	199,075	186,451	160,070	146,854	147,957	140,372

See explanatory information and SOURCE at end of table.

**Table B-56. Total and federally financed R&D expenditures in the mathematical sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 Colorado State University	1,503	1,764	1,592	1,880	433	548	545	708
52 U CA San Diego	1,477	1,135	1,227	1,968	1,208	1,010	1,190	1,918
53 U of the Virgin Islands	1,477e	1,477	783i	0e	0e	0	0	45i
54 Harvard University	1,462	1,275	1,489	2,293	1,379	1,070	1,299	2,221
55 Virginia Commonwealth U	1,444	866	146	20	1,220	718	117	14
56 SUNY Buffalo	1,431	629	390	382	297	304	223	251
57 Ohio State University	1,370	1,731	1,617	2,516	997	1,234	1,348	1,907
58 U of Missouri Columbia	1,348	1,113	972	880	608	484	379	379
59 Indiana University	1,290	1,385	1,400	1,498	785	993	1,035	1,170
60 University of Utah	1,290	1,143	1,265	1,232	1,112	1,093	1,241	1,183
Total, 1st 60 institutions	241,817	217,417	210,650	199,903	168,109	154,308	155,334	150,168
61 U MA Dartmouth	1,266	817	1,082	1,099	1,208	807	1,074	1,078
62 Arizona State University	1,245	1,239	1,453	1,169	582	788	918	758
63 Washington University	1,208	918	773	1,100	1,127	844	725	993
64 Northwestern University	1,198	998	1,409	966	924	724	915	871
65 Rensselaer Polytech Inst	1,170	1,440i	1,415	1,126	1,057	870i	946	756
66 U CA Davis	1,100	758	583	585	693	705	539	505
67 Texas Tech University	1,024	672	525	398	656	356	226	232
68 San Diego St University	998	736	750	315	196	218	169	144
69 Illinois State University	982e	963	762	960	950e	932	664	850
70 George Mason University	959	770	815	1,085	834	612	685	882
Total, 1st 70 institutions	252,967	226,728	220,217	208,706	176,336	161,164	162,195	157,237
71 Columbia University	953	761	718	747	852	701	637	676
72 Jackson State University	937	826	785	391i	805	735	707	353i
73 Emory University	908	918	1,003	632	619	812	766	482
74 Duke University	904	1,007	1,039	826	844	843	883	749
75 Western Illinois U	903	750	632	584	650	540	585	497
76 Ithaca College	845	0i	0i	0i	777	0i	0i	0i
77 U of NC Chapel Hill	840	1,166	1,015	957	751	966	1,004	931
78 U of NC at Charlotte	836	161i	152i	144i	801	161i	152i	144i
79 The University of Memphis ...	831	363	325	360	201	204	290	324
80 Air Force Inst of Tech	794	1,089	875	1,079	644	397	260	318
Total, 1st 80 institutions	261,718	233,769	226,761	214,426	183,280	166,523	167,479	161,711
81 Clark Atlanta University	792	705	840	313	0	705	683	313
82 Tufts University	783	974	847	104	630	737	650	76
83 Kansas State University	779	727	692	724	304	256	178	176
84 U MD College Park	773	1,671	1,801	2,023	773	902	944	1,305
85 U of Pennsylvania	747	1,120	1,455	1,257	731	1,117	1,422	1,230
86 Michigan State University	712	1,185	2,085	2,286	481	931	1,540	1,737
87 U Arkansas Main	679	672	613	740	25	18	8	58
88 Northeastern University	677	591	711	444	567	471	374	417
89 U of Tennessee System	674	696	1,257	1,529	238	372	769	1,064
90 University of Houston	673	1,307	1,525	1,786	457	910	980	1,237
Total, 1st 90 institutions	269,007	243,417	238,587	225,632	187,486	172,942	175,027	169,324

See explanatory information and SOURCE at end of table.

**Table B-56. Total and federally financed R&D expenditures in the mathematical sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 NJ Inst of Technology	665	795	703	795	455	473	437	538
92 Utah State University	654	768	478	262	289	388	141	110
93 U of Southwestern LA	652	623	630	589	3	17	53	46
94 SUNY Binghamton	625	491	370	371	115	204	149	218
95 University of Oregon	604	506	439	372	410	317	315	264
96 University of Oklahoma	603	701	693	716	139	174	210	289
97 Marquette University	588	259	214 i	208	384	49	114 i	121
98 Montana St U Bozeman	580	278	759	846	533	278	252	388
99 Worcester Polytech Inst	555	343	318	264	321	229	224	222
100 University of Notre Dame	552	370	589	359	524	322	536	319
Total, 1st 100 institutions	275,085	248,551	243,780	230,414	190,659	175,393	177,458	171,839
Total, all other sampled insts	32,854	38,786	42,250	46,098	21,803	26,395	29,177	31,532

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-57. Total and federally financed R&D expenditures in the computer sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	754,375	707,757	688,349	680,807	517,823	506,795	500,713	482,677
1 Johns Hopkins U	72,991	79,097	78,243	74,575	72,340	78,103	77,311	74,350
2 U of Illinois Urbana	66,779	9,130	7,496	8,671	40,641	6,692	4,949	5,253
3 Carnegie Mellon U	58,795	61,763	61,615	57,529	45,249	46,705	48,274	45,270
4 U of Southern California	49,893	42,063	36,158	34,490	40,661	39,458	34,729	33,052
5 Georgia Institute of Tech	29,329	27,597	26,551	24,590	12,858	12,928	13,668	12,174
6 U MD College Park	19,868	18,478	19,359	20,478	12,005	8,498	9,646	9,406
7 Cornell University	19,309	28,976	28,418	41,487	14,195	23,034	22,774	27,005
8 U CA San Diego	18,910	3,345	359	11,044	10,992	0	0	6,514
9 Stanford University	18,390	18,160	16,899	15,658	16,270	15,873	14,649	14,038
10 MA Institute of Tech	14,590	16,979	15,714	14,491	11,366	12,446	10,313	9,003
Total, 1st 10 institutions	368,854	305,588	290,812	303,013	276,577	243,737	236,313	236,065
11 Ohio State University	13,761	14,779	11,068	9,594	2,522	3,332	3,009	1,810
12 University of Utah	11,181	9,159	9,412	7,521	10,057	8,815	9,237	6,897
13 California Inst of Tech	11,000	11,060	10,175	4,513	10,996	10,061	9,745	4,291
14 Syracuse University	10,823	9,909i	10,052	6,693	6,376	4,383i	3,380	1,910
15 Rice University	10,275	10,053	10,208	9,700	9,819	9,803	9,976	8,398
16 U MA Amherst	9,314	9,852	10,105	9,307	6,120	5,262	5,716	4,664
17 Oregon Grad Inst Sci Tech ...	9,073e	8,641	8,548	8,593	6,797e	6,473	5,416	4,790
18 U of NC Chapel Hill	8,339	7,859	7,613	7,669	5,358	4,176	5,371	5,306
19 U of Pennsylvania	8,207	7,947	6,791	6,612	5,905	5,789	6,155	5,551
20 Washington University	8,019	7,510	6,313	6,617	5,304	5,863	5,117	5,167
Total, 1st 20 institutions	468,846	402,357	381,097	379,832	345,831	307,694	299,435	284,849
21 U WI Madison	7,481	8,153	6,679	6,263	5,837	6,597	5,599	5,021
22 U CA Santa Barbara	7,047	6,010	5,067	4,740	5,025	4,841	4,046	3,661
23 U of Tennessee System	7,016	8,151	10,560	10,567	3,622	5,258	6,890	7,286
24 U TX Austin	6,919	10,084	9,629	10,190	5,261	7,417	6,856	6,663
25 U CA Los Angeles	6,763	7,114	7,721	6,855	5,122	6,283	6,561	6,184
26 University of Colorado	6,718	7,159	6,837	6,945	4,851	5,342	5,047	4,776
27 Rutgers the State U NJ	6,617	9,138	9,451	10,526	2,383	5,505	5,746	6,926
28 New York University	6,306	7,935	7,633	8,631	3,892	5,428	5,305	6,030
29 University of Arizona	6,293	6,751	4,509	4,590	4,421	5,116	3,629	3,623
30 University of Minnesota	6,285	6,428	9,590	12,665	3,900	4,242	7,187	9,566
Total, 1st 30 institutions	536,291	479,280	458,773	461,804	390,145	363,723	356,301	344,585
31 University of Virginia	5,694	4,115	3,088	3,506	4,982	3,431	2,656	2,917
32 U of Washington	5,676	5,537	5,714	5,249	4,818	4,965	4,769	4,444
33 SUNY Buffalo	5,656	5,539	6,031	7,623	1,977	1,593	5,076	5,057
34 University of Michigan	5,295	5,008	9,718	15,981	1,452	2,010	3,263	11,139
35 Brown University	5,149	4,915	4,496	3,490	3,462	3,245	2,930	2,311
36 Iowa State University	5,129	4,913	4,598	4,745	483	324	230	156
37 Purdue University	4,925	4,836	4,781	4,492	2,345	2,751	3,186	3,082
38 U of Alabama Huntsville	4,923	3,217	3,916	3,840	3,178	1,950	2,088	2,421
39 Princeton University	4,493	4,032	4,118	2,879	2,216	2,307	2,186	1,760
40 Texas A&M University	4,476	5,384	5,808	5,202	1,259	1,848	1,730	1,322
Total, 1st 40 institutions	587,707	526,776	511,041	518,811	416,317	388,147	384,415	379,194
41 New Mexico State Univ	4,338	3,009	2,716	4,054	3,504	2,505	2,341	3,355
42 U CA Irvine	4,259	3,807	2,979	3,160	2,215	2,496	1,742	2,374
43 Columbia University	4,074	4,927	4,722	4,277	3,830	4,569	3,927	3,756
44 University of Delaware	3,947	3,830	3,779	3,250	2,431	2,157	2,464	2,500
45 US Naval Postgrad School ...	3,930i	3,731	3,738i	3,371	3,916i	3,718	3,682i	3,347
46 Clark Atlanta University	3,668	2,955	3,525	2,213	2,793	2,158	2,119	1,616
47 University of Florida	3,578	3,021	3,160	2,421	2,371	1,645	1,884	1,397
48 SUNY Stony Brook	3,341	3,251	2,323	2,291	2,206	1,938	1,510	1,522
49 Northwestern University	3,011	2,818	3,321	3,684	1,769	1,798	3,140	3,339
50 The University of Alabama	2,990	2,397	1,535	1,156	311	343	402	916
Total, 1st 50 institutions	624,843	560,522	542,839	548,688	441,663	411,474	407,626	403,316

See explanatory information and SOURCE at end of table.

**Table B-57. Total and federally financed R&D expenditures in the computer sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 NC State University	2,876	2,786	1,759	1,161	1,713	1,281	884	667
52 Arizona State University	2,851	2,091	1,614	1,236	1,141	1,028	760	559
53 Michigan State University	2,848	2,070	2,283	4,424	1,440	1,280	1,131	820
54 Indiana University	2,827	3,215	2,880	2,717	1,505	2,595	2,213	2,202
55 University of Oregon	2,707	2,673	3,010	3,066	2,404	2,312	2,460	2,727
56 University of Pittsburgh	2,690	1,789	1,667	1,586	2,353	1,268	1,429	1,300
57 University of Rochester	2,652	3,212	2,922	2,365	2,549	3,093	2,831	2,230
58 University of New Mexico	2,601	2,823	2,877	3,058	1,926	2,595	2,565	2,487
59 University of Houston	2,561	2,406	2,121	919	1,780	1,643	1,316	428
60 University of Georgia	2,529	2,992	2,438	2,804	88	40	426	264
Total, 1st 60 institutions	651,985	586,579	566,410	572,024	458,562	428,609	423,641	417,000
61 U of Southwestern LA	2,526	3,312	2,517	2,689	965	846	645	446
62 U CA Davis	2,458	2,441	1,629	1,778	1,994	1,841	1,496	1,589
63 University of Oklahoma	2,322	1,842	1,563	1,846	128	384	459	505
64 VA Polytech Inst & St U	2,315	2,275	1,859	1,635	1,617	1,755	1,411	1,170
65 NJ Inst of Technology	2,249	2,310	2,853	1,947	1,181	744	1,054	465
66 Univ of West Florida	2,247	1,145i	956i	764i	1,468	945i	759i	574i
67 Rensselaer Polytech Inst	2,160	1,313i	1,286	1,487	1,718	779i	847	996
68 Western Illinois U	2,146	1,853	1,790	357	1,245	1,054	1,151	212
69 Oklahoma State University ...	2,133	2,274	122	158	2,029	2,235	75	73
70 Florida State University	2,053	2,635	2,939	1,129	1,518	1,912	1,986	489
Total, 1st 70 institutions	674,594	607,979	583,924	585,814	472,425	441,104	433,524	423,519
71 Bowie State University	2,026	1,991	49	173	2,026	1,991	49	93
72 Yale University	1,998	2,181	2,585	2,653	1,682	1,797	1,971	2,186
73 The Rockefeller Univ	1,927	2,179	1,585	1,373	442	645	210	0
74 Oregon State University	1,888	1,061	1,529	894	1,515	900	632	510
75 Clemson University	1,807	1,139	1,268	1,652	565	381	420	573
76 Colorado State University	1,780	1,405	1,264	851	819	661	693	587
77 Duke University	1,758	1,484	1,889	1,979	1,076	787	1,299	1,321
78 Old Dominion University	1,542	1,402	1,222	919	1,153	1,024	858	642
79 Howard University	1,536	3,284	5,914	2,859	1,416	3,081	5,531	2,428
80 U CA Santa Cruz	1,520	949	1,018	781	1,150	760	953	735
Total, 1st 80 institutions	692,376	625,054	602,247	599,948	484,269	453,131	446,140	432,594
81 U of South Carolina	1,447	814	754	844	638	274	374	477
82 Louisiana St U, All Camp	1,377	832	1,189	853	80	148	298	267
83 University of Notre Dame	1,282	656	638	494	1,203	415	365	163
84 Harvard University	1,277	1,042	1,178	1,833	1,229	685	982	1,579
85 Drexel University	1,273	1,109	1,082	1,501	132	29	162	255
86 Le Moyne-Owen Coll	1,200	--	--	--	1,200	--	--	--
87 U CA Berkeley	1,182	932	312	430	1	6	92	335
88 University of Connecticut	1,173	1,926	1,888	2,018	198	206	250	423
89 Mississippi State U	1,125	1,004	569	401	709	926	553	401
90 Pennsylvania State U	1,020	4,819	5,127	5,243	448	3,426	3,810	4,234
Total, 1st 90 institutions	704,732	638,188	614,984	613,565	490,107	459,246	453,026	440,728

See explanatory information and SOURCE at end of table.

**Table B-57. Total and federally financed R&D expenditures in the computer sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 U TX El Paso	968	274	388	292	932	269	388	262
92 SUNY Binghamton	962	760	924	1,488	359	320	280	305
93 Jackson State University	959	884	893	528 <i>i</i>	824	775	804	484 <i>i</i>
94 U of Missouri Kansas City	938	606	1,329	1,000	734	199	139	0
95 Texas Tech University	923	1,043	1,169	869	321	336	634	451
96 Florida International U	906	880	854	830	184	179	174	169
97 Dartmouth College	899	442	325	244	526	237	279	229
98 Grambling State U	898	1,978	909	0	885	1,976	909	0
99 Northeastern University	895	941	973	904	853	856	925	891
100 U of Missouri Rolla	856	811	1,091	325	205	144	83	215
Total, 1st 100 institutions	713,936	646,807	623,839	620,045	495,930	464,537	457,641	443,734
Total, all other sampled insts	40,439	60,950	64,510	60,762	21,893	42,258	43,072	38,943

NOTE: Because of rounding, detail may not add to totals.

KEY:

- = not available
- e = estimated
- i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-58. R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 1 of 4

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agri-cultural sciences	Bio-logical sciences	Medical sciences	Other
Total, all institutions	14,547,045	13,497,847	12,687,709	12,163,762	1,989,916	4,548,873	7,455,698	552,558
1 U CA San Francisco	379,970	334,206	320,757	329,742	0	0	379,970	0
2 Johns Hopkins U	332,458	318,588	290,860	283,666	0i	79,603i	228,317i	24,538i
3 U CA Los Angeles	313,422	257,009	241,194	189,275	0	50,563	262,859	0
4 U of Washington	288,925	274,310	266,595	257,289	16,167	83,666	184,673	4,419
5 University of Michigan	270,466	241,824	230,469	230,231	2,592	81,606	169,739	16,529
6 U of Pennsylvania	266,318	226,426	216,836	201,472	92	98,883	160,236	7,107
7 U WI Madison	265,262	246,501	241,824	233,792	28,767	86,299	146,515	3,681
8 University of Minnesota	261,207	263,510	244,893	239,292	55,693	50,431	148,478	6,605
9 Washington University	234,810	231,303	192,578	182,188	0	95,844	134,460	4,506
10 U CA Davis	232,976	211,464	214,906	210,514	106,546	45,546	80,792	92
Total, 1st 10 institutions	2,845,814	2,605,141	2,460,912	2,357,461	209,857	672,441	1,896,039	67,477
11 Duke University	227,796	203,326	197,213	176,749	0	51,802	175,432	562
12 Yale University	225,403	210,570	199,028	190,699	1,529	73,251	150,623	0
13 Baylor Col of Medicine	216,528	192,744	184,613	190,375	0	102,767	113,761	0
14 Cornell University	215,404	200,441	193,361	191,748	45,628	52,606	117,170	0
15 U of Alabama Birmingham	211,039	187,877	159,287	147,212	0	59,679	150,571	789
16 U CA San Diego	199,279	186,528	179,999	165,045	0	21,625	176,274	1,380
17 Harvard University	195,472	183,081	178,308	174,093	0	98,793	96,679	0
18 Stanford University	195,377	177,006	160,399	147,121	0	10,837	184,049	491
19 University of Pittsburgh	182,827	170,225	157,903	151,868	0	6,585	172,822	3,420
20 University of Florida	177,226	191,088	189,659	144,751	72,476	45,592	58,587	571
Total, 1st 20 institutions	4,892,165	4,508,027	4,260,682	4,037,122	329,490	1,195,978	3,292,007	74,690
21 U of NC Chapel Hill	176,442	162,616	146,892	151,278	0	77,094	85,172	14,176
22 U CA Berkeley	174,403	141,533	125,648	113,300	53,831	57,018	63,545	9
23 Columbia University	170,957	157,028	151,274	153,782	0	67,051	103,503	403
24 Ohio State University	163,913	145,702	133,876	124,664	51,776	43,622	57,282	11,233
25 Emory University	163,709	150,242	136,343	134,022	0	37,531	98,669	27,509
26 Texas A&M University	159,093	144,744	143,595	141,228	59,860	88,641	10,592	0
27 U TX SW Med Ctr Dallas	153,711	140,589	130,162	125,301	0	70,310	83,166	235
28 University of Arizona	153,625	144,319	142,920	136,777	46,049	51,099	53,700	2,777
29 University of Georgia	148,995	157,095	146,618	142,910	73,069	57,443	18,324	159
30 U of Iowa	148,007	135,873	131,084	120,115	0	34,996	110,821	2,190
Total, 1st 30 institutions	6,505,020	5,987,768	5,649,094	5,380,499	614,075	1,780,783	3,976,781	133,381
31 U of MD Baltimore	143,321	134,808	122,207	107,874	0	21,498	114,657	7,166
32 University of Colorado	142,135	130,305	116,864	110,510	0	41,438	97,047	3,650
33 U of Southern California	141,502	137,378	135,848	121,157	0	4,552	128,732	8,218
34 U TX MD Anderson Cncr	135,100	124,450	115,867	116,723	0	61,342	73,758	0
35 Case Western Reserve U	133,979	121,432	106,472	104,951	0	42,420	90,884	675
36 Northwestern University	133,916	113,615	103,209	93,028	0	53,124	73,987	6,805
37 University of Cincinnati	129,578	115,869	103,213	65,129	0	45,159	84,419	0
38 New York University	124,351	123,371	116,437	119,884	0	41,339	47,809	35,203
39 Louisiana St U, All Camp	124,209	121,908	115,734	112,925	52,166	42,916	19,686	9,441
40 NC State University	121,736	110,190	88,772	88,254	60,168	59,658	0	1,910
Total, 1st 40 institutions	7,834,847	7,221,094	6,773,717	6,420,934	726,409	2,194,229	4,707,760	206,449
41 Michigan State University	120,904	117,219	116,166	119,040	54,954	51,575	12,554	1,821
42 University of Kentucky	117,731	90,936	85,515	81,524	50,143	1,695	62,164	3,729
43 U Med & Dent NJ	114,491	110,383	98,535	96,365	0	45,160	69,331	0
44 University of Rochester	111,899	94,688	90,143	95,158	0	32,171	74,785	4,943
45 University of IL Chicago	110,518	103,074	88,861	90,842	0	27,997	76,133	6,388
46 Indiana University	110,220	99,219	93,812	87,901	16	34,999	70,782	4,423
47 Vanderbilt University	109,534	98,318	93,514	86,779	0	55,890	45,505	8,139
48 Mt Sinai Sch Med	109,448	94,776	92,405	92,008	0	39,868	69,580	0
49 The Rockefeller Univ	106,492	101,395	97,284	89,806	0	102,569	3,923	0
50 Georgetown University	106,347	110,351	103,154	92,835	0	11,698	92,522	2,127
Total, 1st 50 institutions	8,952,431	8,241,453	7,733,106	7,353,192	831,522	2,597,851	5,285,039	238,019

See explanatory information and SOURCE at end of table.

Table B-58. R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 2 of 4

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agri-cultural sciences	Bio-logical sciences	Medical sciences	Other
51 Wayne State University	104,460	93,689	84,603	78,850	0	3,084	99,380	1,996
52 University of Chicago	103,348	104,122	96,240	84,545	0	33,593	69,343	412
53 UT-Houston Hlth Sci Ctr	101,993	95,638	82,800	74,608	0	23,716	67,368	10,909
54 Oregon Health Sciences U	100,300 ⁱ	93,635 ⁱ	76,710 ⁱ	71,282 ⁱ	0 ⁱ	24,666 ⁱ	67,415 ⁱ	8,219 ⁱ
55 Pennsylvania State U	99,746	93,820	94,400	93,751	23,151	46,249	26,030	4,316
56 Yeshiva University	99,000	96,819	91,430	94,739 ⁱ	0	24,000	54,000	21,000
57 U of Missouri Columbia	98,662	91,673	84,921	88,685	43,951	28,980	24,529	1,202
58 Purdue University	96,025	93,060	91,770	94,927	35,625	43,305	13,218	3,877
59 Allegheny U of Hlth Sci	95,984	85,748	48,790	41,237	0	28,080	65,697	2,207
60 University of Utah	94,383	89,029	70,658	66,166	0	30,992	38,269	25,122
Total, 1st 60 institutions	9,946,332	9,178,686	8,555,428	8,141,982	934,249	2,884,516	5,810,288	317,279
61 SUNY Buffalo	93,114	90,923	87,207	90,738	0	43,013	43,556	6,545
62 University of Miami	92,385	94,398	89,080	87,002	0	18,103	74,257	25
63 Rutgers the State U NJ	91,706	85,290	84,431	86,367	30,425	40,216	16,364	4,701
64 U CA Irvine	86,093	71,409	73,801	71,498	0	46,390	38,868	835
65 U TX Hlth Sci Ctr San Ant	85,407	86,019	83,028	87,336	0	31,623	53,784	0
66 U of Tennessee System	85,380	83,464	79,094	79,644	28,216	23,363	30,813	2,988
67 U TX Med Br Galveston	85,219	76,484	73,759	72,569	0	0	85,150	69
68 Boston University	83,544	79,997	75,059	73,222	0	5,592	76,460	1,492
69 Oregon State University	83,238	80,008	76,770	75,010	57,866	21,883	1,995	1,494
70 U MA Worcester	82,950	71,346	63,341	62,441	0	29,038	29,843	24,069
Total, 1st 70 institutions	10,815,368	9,998,024	9,340,998	8,927,809	1,050,756	3,143,737	6,261,378	359,497
71 University of Virginia	82,853	69,703	56,261	84,936	0	26,954	52,491	3,408
72 U of Illinois Urbana	82,599	71,006	64,036	56,814	41,325	30,011	4,219	7,044
73 University of Connecticut	79,719	75,564	78,643	72,655	7,331	26,519	43,083	2,786
74 SUNY Stony Brook	77,768	72,394	66,034	60,793	0	42,708	35,060	0
75 Colorado State University	77,765	68,218	66,166	67,864	42,874	23,940	10,830	121
76 Wake Forest University	75,987	74,089	73,003	66,819	0	507	75,480	0
77 Iowa State University	75,816	74,475	71,154	72,196	38,808	31,045	3,271	2,692
78 U of Nebraska Lincoln	74,011 ⁱ	72,914	65,873	69,409	54,227 ⁱ	12,986 ⁱ	6,798 ⁱ	0 ⁱ
79 Tufts University	73,437	67,094	62,376	64,053	0	65,091	6,907	1,439
80 Tulane University	72,246	70,668	68,169	83,432	0	9,507	26,425	36,314
Total, 1st 80 institutions	11,587,569	10,714,149	10,012,713	9,626,780	1,235,321	3,413,005	6,525,942	413,301
81 Virginia Commonwealth U	70,968	70,273	72,016	69,984	0	23,729	45,006	2,233
82 Thomas Jefferson U	69,460	69,228	69,154	65,705	0	37,076	31,765	619
83 VA Polytech Inst & St U	66,495	65,396	52,424	53,441	54,399	7,687	2,999	1,410
84 University of Kansas	66,492	61,927	60,097	58,665	36	37,581	13,755	15,120
85 Washington State U	64,805	59,631	59,458	55,616	24,214	35,230	2,988	2,373
86 U of South Florida	63,616	58,771	56,446	54,247	0	1,570	61,344	702
87 Mississippi State U	62,253	53,238	53,126	39,717	55,294	1,416	5,391	152
88 Univ of Hawaii Manoa	57,016	49,719	44,325	31,853	18,099	9,905	16,630	12,382
89 University of Oklahoma	56,247	50,649	47,858	45,927	0	23,860	28,875	3,512
90 Medical Col of Wisconsin	56,021	51,629	47,365	44,169	0	20,448	35,573	0
Total, 1st 90 institutions	12,220,942	11,304,610	10,574,982	10,146,104	1,387,363	3,611,507	6,770,268	451,804
91 Med U of South Carolina	55,937	57,111	54,426	57,495	0	13,360	28,019	14,558
92 Kansas State University	54,268	50,095	48,419	47,597	38,347	15,689	232	0
93 Rush University	52,378	47,357	45,056	39,052	0	9,421	40,024	2,933
94 University of Vermont	51,015	52,487	46,766	47,065	5,681	17,619	24,124	3,591
95 U of NE Med Ctr Omaha	50,453	45,365	42,612	38,287	0	29,850	20,603	0
96 Dartmouth College	49,978	41,417	40,927	39,852	0	2,433	47,545	0
97 U CA Riverside	49,242	55,343	52,873	51,495	23,552	25,184	506	0
98 Auburn University	48,586	47,797	46,720	49,167	36,228	8,816	2,106	1,436
99 Clemson University	47,941	40,781	40,820	38,963	25,778	18,366	1,045	2,752
100 U Arkansas Main	46,523	42,188	38,720	37,148	45,060	1,463	0	0
Total, 1st 100 institutions	12,727,263	11,784,551	11,032,321	10,592,225	1,562,009	3,753,708	6,934,472	477,074

See explanatory information and SOURCE at end of table.

Table B-58. R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agri-cultural sciences	Bio-logical sciences	Medical sciences	Other
101 Temple University	46,219	39,912	40,334	38,701	83	19,655	24,852	1,629
102 MA Institute of Tech	42,744	42,738	36,104	35,398	0	42,744	0	0
103 University of Idaho	41,187	42,226i	41,210	38,934	33,782	6,953	452	0
104 University of New Mexico	40,612	34,492	33,096	34,741	0	20,134	11,136	9,342
105 Medical Col of Georgia	39,806	38,725	35,971	31,369	0	20,246	19,434	126
106 U Arkansas Medical Sci	39,487	37,336	33,354	28,389	0	7,112	32,375	0
107 Oklahoma State University ...	38,293	35,653	47,049	44,071	26,528	10,421	1,138	206
108 U PR Mayaguez	37,691	35,732	33,724	33,125	36,801	890	0	0
109 West Virginia University	34,199	28,469	25,308	24,902	6,222	8,912	18,671	394
110 U MD College Park	33,772	31,579	31,285	37,515	27,036	6,736	0	0
Total, 1st 110 institutions	13,121,273	12,151,413	11,389,756	10,939,370	1,692,461	3,897,511	7,042,530	488,771
111 California Inst of Tech	32,425	31,240	24,137	27,462	0	32,425	0	0
112 Montana St U Bozeman	32,362	31,996	30,569	32,522	23,132	9,119	0	111
113 North Dakota State U	32,362	25,193	30,408	27,154	30,113	1,617	632	0
114 Utah State University	32,316	32,815	26,561	26,851	21,294	6,349	4,673	0
115 University of Louisville	31,008	26,998	23,571	17,209	0	9,221	20,056	1,731
116 Brown University	30,976	28,892	26,204	21,898	0	4,649	23,617	2,710
117 Loyola U of Chicago	28,980	25,888	24,437	28,174i	0	13,570	15,410	0
118 SUNY Albany	28,221	37,106	44,725	19,432	0	28,221	0	0
119 SUNY Hlth Sci Ctr Brklyn	27,517	29,727	30,254i	30,781	0	7,633	19,609	275
120 George Washington U	26,872	21,627	24,344	18,706	0	241	26,576	55
Total, 1st 120 institutions	13,424,312	12,442,895	11,674,966	11,189,559	1,767,000	4,010,556	7,153,103	493,653
121 U MA Amherst	26,555	23,134	20,387	18,640	16,364	7,256	0	2,935
122 Saint Louis University	26,000	25,356	23,950	21,485	0	10,355	13,278	2,367
123 U TX Austin	25,821	26,363	22,176	20,903	826	16,100	8,895	0
124 U MD Biotechnology Inst	23,944	22,188	16,776	12,781	5,723	18,024	0	197
125 Tuskegee University	23,863	21,111	7,420	5,862	15,305	2,803	5,755	0
126 Texas Tech University	22,446	21,078	22,260	22,088	9,030	7,986	5,350	80
127 U of Nevada Reno	21,761	21,862	18,264	19,687	6,788	11,015	3,851	107
128 Eastern VA Med School	21,672	19,109	17,730	17,823	0	10,901	10,661	110
129 Unif Svcs U of Hlth Sci	20,309	18,812	36,851	39,612	0	9,314	10,995	0
130 Brandeis University	20,304	19,992	17,513	17,360	0	20,304	0	0
Total, 1st 130 institutions	13,656,987	12,661,900	11,878,293	11,385,800	1,821,036	4,124,614	7,211,888	499,449
131 U Mississippi, All Camp	20,175	18,286	17,174	17,619	0	5,991	13,970	214
132 U PR Med Sci Campus	19,830	15,575	15,005	17,354	0	0	19,830	0
133 University of Wyoming	19,657	17,640	17,625	18,049	11,805	6,513	1,339	0
134 U of Alaska Fairbanks	19,562i	18,612i	18,357i	17,387i	9,136i	10,426i	0i	0i
135 New York Medical College	19,159	16,890	16,372	18,424	0	10,916	8,243	0
136 San Diego St University	19,023	20,185	22,479	19,997	654	9,518	6,995	1,856
137 U of South Carolina	18,180	17,431	19,819	16,706	0	4,525	13,375	280
138 Princeton University	17,843	17,693	18,840	17,175	0	17,843	0	0
139 C R Drew U of Med & Sci	17,205e	17,205e	16,386	12,500	0e	0e	17,205e	0e
140 University of Delaware	17,180	13,272	11,544	11,920	14,927	1,932	0	321
Total, 1st 140 institutions	13,844,801	12,834,689	12,051,894	11,552,931	1,857,558	4,192,278	7,292,845	502,120

See explanatory information and SOURCE at end of table.

Table B-58. R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agri-cultural sciences	Bio-logical sciences	Medical sciences	Other
141 Sthrn IL U Carbondale	16,616	16,445	15,455	14,974	5,817	3,572	6,877	350
142 New Mexico State Univ	16,330	19,466	20,257	19,956	13,880	2,401	47	2
143 Georgia Institute of Tech	15,886	6,810	4,790	4,171	2,258	2,085	11,543	0
144 Creighton University	14,758	12,642	11,446	10,895	0	3,091	11,652	15
145 University of Oregon	14,451	14,652	15,249	13,568	0	8,261	6,190	0
146 U of Maine	14,276	16,547	21,837	17,029	5,556	8,708	0	12
147 SUNY Hlth Sci Ctr Syrce	14,089	14,914	14,093i	13,177	0	7,120	6,969	0
148 The University of Montana	13,896	14,736	13,891	12,542	5,623	6,755	987	531
149 Carnegie Mellon U	13,594	14,850	13,949	12,966	0	5,003	0	8,591
150 Morehouse School of Med	13,213	12,828	12,455	7,447	0	12,768	445	0
Total, 1st 150 institutions	13,991,910	12,978,579	12,195,316	11,679,656	1,890,692	4,252,042	7,337,555	511,621
Total, all other sampled insts	555,135	519,268	492,393	484,106	99,224	296,831	118,143	40,937

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-59. Federally financed R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 1 of 4

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agricul-tural sciences	Bio-logical sciences	Medical sciences	Other
Total, all institutions	8,299,959	7,833,469	7,392,784	7,102,289	532,716	2,914,333	4,546,066	306,844
1 Johns Hopkins U	259,454	244,682	228,357	228,115	0 i	61,961 i	176,533 i	20,960
2 U of Washington	222,448	214,307	202,810	190,274	11,160	69,824	138,569	2,895
3 U CA San Francisco	219,912	229,323	221,864	224,271	0	0	219,912	0
4 U of Pennsylvania	198,815	170,897	164,593	152,982	0	74,506	118,314	5,995
5 Yale University	174,414	161,454	149,625	144,180	776	61,187	112,451	0
6 University of Michigan	171,935	154,678	144,865	149,975	1,533	55,139	105,041	10,222
7 Harvard University	163,991	138,054	129,710	130,755	0	87,418	76,573	0
8 Washington University	161,884	163,180	135,203	126,443	0	72,471	86,250	3,163
9 U CA Los Angeles	159,506	163,367	161,934	124,560	0	36,359	123,147	0
10 Stanford University	155,050	140,805	130,014	121,744	0	8,712	145,985	353
Total, 1st 10 institutions	1,887,409	1,780,747	1,668,975	1,593,299	13,469	527,577	1,302,775	43,588
11 U of Alabama Birmingham	154,908	138,895	119,858	102,801	0	45,928	108,723	257
12 University of Pittsburgh	145,487	136,957	125,971	121,344	0	4,942	138,271	2,274
13 University of Minnesota	144,826	139,674	139,154	133,872	10,424	33,549	97,374	3,479
14 Columbia University	144,577	135,093	124,483	126,387	0	59,234	85,197	146
15 Duke University	132,886	122,374	115,906	115,887	0	43,610	88,740	536
16 U of NC Chapel Hill	131,183	114,807	108,904	113,144	0	59,372	67,008	4,803
17 U CA San Diego	127,194	137,246	143,141	136,237	0	14,991	112,174	29
18 U WI Madison	126,814	122,349	120,169	116,829	8,301	45,740	71,332	1,441
19 Emory University	111,682	99,422	88,425	85,354	0	31,097	61,269	19,316
20 Baylor Col of Medicine	110,610	97,829	92,294	94,197	0	66,773	43,837	0
Total, 1st 20 institutions	3,217,576	3,025,393	2,847,280	2,739,351	32,194	932,813	2,176,700	75,869
21 Cornell University	110,388	103,585	99,877	104,721	12,154	29,908	68,326	0
22 Case Western Reserve U	106,938	94,708	86,625	84,456	0	31,789	74,591	558
23 University of Colorado	104,521	98,022	89,607	86,245	0	32,731	70,452	1,338
24 U TX SW Med Ctr Dallas	97,200	98,357	81,468	78,892	0	48,414	48,602	184
25 U of Southern California	91,664	92,577	88,447	79,478	0	3,420	81,569	6,675
26 U of Iowa	89,203	83,511	81,645	78,156	0	21,700	67,335	168
27 U CA Davis	88,532	96,348	105,275	101,090	28,662	16,322	43,548	0
28 University of Chicago	87,762	84,766	80,687	70,261	0	28,013	59,667	82
29 Vanderbilt University	86,936	79,651	77,157	72,703	0	48,206	31,623	7,107
30 New York University	81,747	75,150	72,872	74,400	0	33,767	27,970	20,010
Total, 1st 30 institutions	4,162,467	3,923,068	3,710,940	3,569,753	73,010	1,227,083	2,750,383	111,991
31 Yeshiva University	80,000	77,936	73,396	72,132 i	0	18,400	44,000	17,600
32 Georgetown University	79,223	78,981	75,805	67,868	0	9,055	68,439	1,729
33 Northwestern University	78,649	67,983	56,999	49,751	0	35,196	38,843	4,610
34 U of MD Baltimore	78,037	72,100	65,211	59,596	0	11,706	62,430	3,901
35 University of Rochester	76,928	67,532	65,869	71,027	0	26,412	47,813	2,703
36 University of Arizona	75,275	71,555	72,090	69,268	13,850	27,714	31,479	2,232
37 University of Cincinnati	74,095	63,654	58,523	39,430	0	29,132	44,963	0
38 Ohio State University	72,194	66,322	61,724	63,737	10,281	24,693	31,983	5,237
39 UT-Houston Hlth Sci Ctr	70,446	67,205	61,456	54,762	0	16,123	47,636	6,687
40 Mt Sinai Sch Med	69,995	60,914	61,599	58,991	0	30,207	39,788	0
Total, 1st 40 institutions	4,917,309	4,617,250	4,363,612	4,176,315	97,141	1,455,721	3,207,757	156,690
41 Boston University	67,475	64,981	59,631	57,944	0	4,913	61,463	1,099
42 Oregon Health Sciences U ...	66,743 i	64,472 i	48,222 i	46,428 i	0 i	19,032 i	40,391 i	7,320
43 U CA Berkeley	65,569	71,609	67,682	60,146	12,953	37,810	14,797	9
44 Indiana University	64,970	60,771	56,549	51,443	0	22,259	39,839	2,872
45 University of Utah	63,895	62,182	57,785	52,474	0	24,931	30,127	8,837
46 University of Florida	63,549	57,850	54,724	51,560	11,111	23,676	28,364	398
47 University of Miami	62,022	65,103	61,623	60,391	0	14,783	47,239	0
48 Allegheny U of Hlth Sci	61,102	48,062	27,723	23,905	0	22,402	37,048	1,652
49 U TX MD Anderson Cnrc	60,347	47,524	40,709	42,205	0	27,871	32,476	0
50 U Med & Dent NJ	59,828	57,471	47,505	45,734	0	27,962	31,866	0
Total, 1st 50 institutions	5,552,809	5,217,275	4,885,765	4,668,545	121,205	1,681,360	3,571,367	178,877

See explanatory information and SOURCE at end of table.

Table B-59. Federally financed R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agri-cultural sciences	Bio-logical sciences	Medical sciences	Other
51 University of IL Chicago	56,850	52,832	42,757	44,425	0	16,080	37,183	3,587
52 Wake Forest University	56,023	53,480	54,124	49,656	0	455	55,568	0
53 University of Virginia	55,873	49,517	43,423	50,900	0	21,108	32,120	2,645
54 U TX Hlth Sci Ctr San Ant	55,004	53,478	51,203	54,433	0	23,429	31,575	0
55 U MA Worcester	53,766	43,350	40,198	36,970	0	26,023	26,152	1,591
56 Pennsylvania State U	52,397	50,925	48,236	45,625	5,494	20,790	24,068	2,045
57 Thomas Jefferson U	51,728	49,091	51,475	49,335	0	30,322	20,905	501
58 Tufts University	51,225	46,538	43,697	43,599	0	46,613	3,734	878
59 SUNY Stony Brook	48,990	43,766	41,015	39,107	0	28,204	20,786	0
60 SUNY Buffalo	48,799	52,694	52,205	52,396	0	27,738	16,871	4,190
Total, 1st 60 institutions	6,083,464	5,712,946	5,354,098	5,134,991	126,699	1,922,122	3,840,329	194,314
61 U TX Med Br Galveston	48,310	41,831	38,323	33,204	0	0	48,310	0
62 Wayne State University	46,472	43,004	37,545	37,521	0	1,648	43,857	967
63 Michigan State University	45,496	46,774	43,889	46,185	11,320	26,600	6,381	1,195
64 Tulane University	44,002	40,477	40,152	50,900	0	6,953	10,415	26,634
65 Medical Col of Wisconsin	43,831	39,364	34,527	31,098	0	15,998	27,833	0
66 Texas A&M University	43,610	37,707	40,087	33,297	15,812	20,423	7,375	0
67 Virginia Commonwealth U	43,479	41,288	42,904	43,879	0	17,491	25,062	926
68 University of Georgia	42,412	43,187	43,627	44,933	12,355	27,760	2,182	115
69 Colorado State University	42,266	42,396	39,003	41,567	23,151	13,233	5,882	0
70 University of Kentucky	41,679	43,247	36,567	36,255	4,472	1,040	35,993	174
Total, 1st 70 institutions	6,525,021	6,132,221	5,750,722	5,533,830	193,809	2,053,268	4,053,619	224,325
71 U CA Irvine	41,302	42,198	42,129	41,187	0	28,394	12,453	455
72 Oregon State University	40,011	39,935	39,057	33,922	27,826	10,497	353	1,335
73 The Rockefeller Univ	39,107	39,910	33,525	35,366	0	35,284	3,823	0
74 Louisiana St U, All Camp	37,833	35,538	35,603	36,180	1,954	25,422	8,459	1,998
75 University of Connecticut	37,120	34,607	35,719	33,300	1,171	14,489	19,884	1,576
76 U of Tennessee System	37,064	38,469	36,635	36,852	4,786	16,148	14,057	2,073
77 Med U of South Carolina	36,473	37,790	40,637	36,417	0	8,130	16,107	12,236
78 Dartmouth College	34,859	33,103	30,703	31,146	0	1,730	33,129	0
79 MA Institute of Tech	33,826	32,907	29,882	31,514	0	33,826	0	0
80 Purdue University	32,707	33,033	33,653	36,250	7,821	17,283	5,576	2,027
Total, 1st 80 institutions	6,895,323	6,499,711	6,108,265	5,885,964	237,367	2,244,471	4,167,460	246,025
81 U of Missouri Columbia	31,875	30,421	27,666	23,328	11,304	11,328	9,114	129
82 Univ of Hawaii Manoa	31,608	28,715	22,993	14,527	6,737	5,839	11,987	7,045
83 U of Illinois Urbana	31,419	30,867	29,716	28,006	8,741	19,644	1,383	1,651
84 California Inst of Tech	31,416	27,510	20,351	21,635	0	31,416	0	0
85 University of Kansas	28,377	28,565	25,069	25,043	20	20,141	3,762	4,454
86 Washington State U	28,160	24,049	23,722	22,329	7,925	18,043	544	1,648
87 University of Vermont	27,751	30,379	27,716	29,253	2,400	12,569	11,216	1,566
88 Rush University	27,465	23,717	21,876	16,981	0	6,749	19,531	1,185
89 University of Oklahoma	26,845	24,753	20,909	16,442	0	13,559	12,987	299
90 University of New Mexico	26,611	23,287	22,345	21,569	0	15,085	7,652	3,874
Total, 1st 90 institutions	7,186,850	6,771,974	6,350,628	6,105,077	274,494	2,398,844	4,245,636	267,876
91 Rutgers the State U NJ	24,892	23,854	22,617	24,819	5,300	11,162	8,356	74
92 NC State University	23,450	23,550	26,979	27,515	8,259	14,900	0	291
93 SUNY Albany	23,274	30,678	37,400	14,323	0	23,274	0	0
94 Saint Louis University	22,595	22,087	20,380	18,267	0	9,049	11,213	2,333
95 U of Nebraska Lincoln	22,279 <i>i</i>	21,948	16,583	19,283	16,974 <i>i</i>	3,929 <i>i</i>	1,376 <i>i</i>	0
96 U Arkansas Medical Sci	21,857	19,249	16,796	16,117	0	6,661	15,196	0
97 Temple University	21,568	18,876	19,628	19,231	0	12,220	8,402	946
98 Iowa State University	20,402	19,014	20,134	23,625	9,615	9,505	617	665
99 Brown University	19,938	19,015	16,920	15,276	0	2,899	15,621	1,418
100 VA Polytech Inst & St U	18,391	17,317	17,614	15,452	14,582	2,676	800	333
Total, 1st 100 institutions	7,405,496	6,987,562	6,565,679	6,298,985	329,224	2,495,119	4,307,217	273,936

See explanatory information and SOURCE at end of table.

Table B-59. Federally financed R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 3 of 4

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agri-cultural sciences	Bio-logical sciences	Medical sciences	Other
101 SUNY Hlth Sci Ctr Brklyn	18,318	18,996	18,685i	18,374	0	4,604	13,714	0
102 U TX Austin	18,220	15,235	15,812	15,340	46	12,589	5,585	0
103 Tuskegee University	17,524	19,502	6,752	5,862	10,906	2,182	4,436	0
104 Mississippi State U	17,370	13,117	13,709	12,075	16,127	226	1,017	0
105 C R Drew U of Med & Sci	16,052	16,052e	15,288	10,500	0e	0e	16,052e	0
106 Loyola U of Chicago	15,676	13,032	14,410	17,732i	0	9,131	6,545	0
107 U of NE Med Ctr Omaha	15,663	13,990	14,029	13,375	0	10,148	5,515	0
108 Clemson University	14,996	13,633	13,525	13,508	8,063	5,745	327	861
109 Brandeis University	14,762	14,375	12,497	12,538	0	14,762	0	0
110 U of South Florida	14,694	12,169	10,704	10,118	0	448	14,157	89
Total, 1st 110 institutions	7,568,771	7,137,663	6,701,090	6,428,407	364,366	2,554,954	4,374,565	274,886
111 George Washington U	13,989	11,838	12,226	11,008	0	206	13,740	43
112 U PR Mayaguez	13,985	12,897	13,081	14,093	13,280	705	0	0
113 Kansas State University	13,771	13,409	13,470	13,154	6,562	7,206	3	0
114 New York Medical College	13,639	11,866	11,657	13,778	0	8,374	5,265	0
115 University of Idaho	13,446	14,002i	13,249	13,881	9,843	3,394	209	0
116 Utah State University	13,189	14,353	9,548	10,974	8,531	2,125	2,533	0
117 Medical Col of Georgia	13,127	11,904	11,338	11,007	0	7,561	5,566	0
118 U of Nevada Reno	12,327	11,352	10,974	10,305	2,036	7,777	2,513	1
119 Montana St U Bozeman	12,094	9,775	9,257	10,170	5,855	6,133	0	106
120 Howard University	12,066	10,708	7,762	7,438	0	4,939	7,052	75
Total, 1st 120 institutions	7,700,404	7,259,767	6,813,652	6,544,215	410,473	2,603,374	4,411,446	275,111
121 Morehouse School of Med	12,060	11,709	11,084	6,817	0	11,638	422	0
122 University of Oregon	11,903	12,566	12,841	11,168	0	7,263	4,640	0
123 U PR Med Sci Campus	11,843	12,978	12,191	12,433	0	0	11,843	0
124 Princeton University	11,424	11,512	11,985	9,363	0	11,424	0	0
125 University of Louisville	11,308	10,444	10,388	6,988	0	4,580	5,952	776
126 U MD College Park	11,181	10,872	8,899	9,453	6,068	5,113	0	0
127 Auburn University	11,062	10,418	10,334	10,063	7,367	2,203	492	1,000
128 San Diego St University	11,024	11,101	9,548	9,965	618	5,570	4,205	631
129 U Mississippi, All Camp	10,825	10,172	9,402	10,271	0	4,360	6,274	191
130 West Virginia University	10,774	8,243	10,856	11,284	1,382	3,893	5,430	69
Total, 1st 130 institutions	7,813,808	7,369,782	6,921,180	6,642,020	425,908	2,659,418	4,450,704	277,778
131 Meharry Medical College	10,331e	10,331e	10,331	9,616	0	5,463e	4,361e	507
132 U MA Amherst	10,256	7,926	7,890	6,399	4,859	4,363	0	1,034
133 Eastern VA Med School	9,449	10,618	10,203	9,824	0	2,581	6,868	0
134 U CA Riverside	9,251	17,032	16,940	16,377	2,228	6,562	461	0
135 Oklahoma State University ...	9,232	9,132	11,812	8,530	4,567	4,404	213	48
136 The University of Montana	9,047	8,551	8,044	7,288	3,118	4,902	554	473
137 U of South Carolina	8,925	9,060	11,586	9,511	0	2,390	6,377	158
138 Florida A&M University	8,888	11,006	9,673	11,057	3,506	4,383	152	847
139 University of Wyoming	8,552	6,803	7,071	7,506	5,427	2,788	337	0
140 U of South Alabama	8,456	8,425	8,225	8,160	0	4,320	3,821	315
Total, 1st 140 institutions	7,906,195	7,468,666	7,022,955	6,736,288	449,613	2,701,574	4,473,848	281,160

See explanatory information and SOURCE at end of table.

Table B-59. Federally financed R&D expenditures in the life sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

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Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Agri-cultural sciences	Bio-logical sciences	Medical sciences	Other
141 U Arkansas Main	8,196	8,463	8,369	9,234	7,862	334	0	0
142 Med Col of Ohio	8,107	9,766	9,559	9,243	0	6,671	1,357	79
143 Loma Linda University	7,834	7,062	4,863	3,141	0	3,452	4,202	180
144 Unif Svcs U of Hlth Sci	7,547	9,218	24,621	25,858	0	3,461	4,086	0
145 Wright State University	7,081	6,271	6,351	6,541	0	713	6,355	13
146 Georgia Institute of Tech	6,965	3,190	2,466	2,065	990	914	5,061	0
147 New Mexico State Univ	6,936	6,586	7,455	7,036	5,071	1,847	18	0
148 Carnegie Mellon U	6,926	7,385	6,613	6,793	0	4,115	0	2,811
149 U MD Biotechnology Inst	6,794	4,615	4,106	4,071	1,997	4,765	0	32
150 U of Rhode Island	6,783	3,815i	3,719i	3,622i	4,219	838	822	904
Total, 1st 150 institutions	7,979,364	7,535,037	7,101,077	6,813,892	469,752	2,728,684	4,495,749	285,179
Total, all other sampled insts	320,595	298,432	291,707	288,397	62,964	185,649	50,317	21,665

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-60. Total and federally financed R&D expenditures in the agricultural sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	1,989,916	1,953,926	1,904,681	1,809,667	532,716	562,309	559,190	531,089
1 U CA Davis	106,546	137,127	141,827	105,918	28,662	49,577	59,858	38,326
2 University of Georgia	73,069	73,530	72,109	67,925	12,355	13,045	13,435	14,472
3 University of Florida	72,476	81,807	92,824	74,177	11,111	10,185	11,461	11,370
4 NC State University	60,168	61,817	45,573	45,423	8,259	9,163	11,176	11,904
5 Texas A&M University	59,860	56,394	58,429	54,433	15,812	14,771	17,681	10,738
6 Oregon State University	57,866	56,740	56,312	54,318	27,826	27,871	28,888	24,814
7 University of Minnesota	55,693	52,624	52,015	52,066	10,424	10,076	10,589	11,728
8 Mississippi State U	55,294	44,736	45,191	36,532	16,127	11,670	11,773	10,877
9 Michigan State University	54,954	54,085	62,953	64,495	11,320	13,247	13,555	15,329
10 VA Polytech Inst & St U	54,399	53,623	43,785	43,837	14,582	13,831	14,851	12,306
Total, 1st 10 institutions	650,325	672,483	671,018	599,124	156,478	173,436	193,267	161,864
11 U of Nebraska Lincoln	54,227 <i>i</i>	53,424	47,038	51,301	16,974 <i>i</i>	16,722	10,957	14,215
12 U CA Berkeley	53,831	50,145	48,670	48,674	12,953	16,048	16,215	15,542
13 Louisiana St U, All Camp	52,166	51,680	48,396	47,595	1,954	2,219	2,017	1,799
14 Ohio State University	51,776	47,492	40,420	25,169	10,281	9,218	6,496	7,825
15 University of Kentucky	50,143	36,894	35,651	33,774	4,472	8,023	7,782	7,993
16 University of Arizona	46,049	42,715	41,710	38,884	13,850	13,318	11,736	10,984
17 Cornell University	45,628	44,405	41,747	43,615	12,154	12,983	11,305	12,756
18 U Arkansas Main	45,060	40,784	37,056	35,243	7,862	8,132	7,832	8,559
19 U of Missouri Columbia	43,951	42,330	40,336	41,200	11,304	11,842	11,336	8,849
20 Colorado State University	42,874	39,154	36,459	34,092	23,151	24,760	20,507	18,763
Total, 1st 20 institutions	1,136,030	1,121,506	1,088,501	998,671	271,433	296,701	299,450	269,149
21 U of Illinois Urbana	41,325	39,608	35,912	31,693	8,741	10,166	10,786	10,215
22 Iowa State University	38,808	37,570	36,758	33,610	9,615	9,556	11,254	12,303
23 Kansas State University	38,347	34,494	33,971	34,236	6,562	6,034	6,616	7,172
24 U PR Mayaguez	36,801	34,974	33,307	32,417	13,280	12,229	12,785	13,735
25 Auburn University	36,228	34,609	33,640	36,186	7,367	6,549	6,685	6,725
26 Purdue University	35,625	35,018	33,401	35,875	7,821	8,176	7,239	8,848
27 University of Idaho	33,782	34,208 <i>i</i>	33,384	32,562	9,843	10,446 <i>i</i>	9,884	11,054
28 Rutgers the State U NJ	30,425	28,036	28,536	27,678	5,300	5,908	5,506	5,566
29 North Dakota State U	30,113	21,990	21,765	18,649	4,062	2,541	3,763	3,919
30 U WI Madison	28,767	26,333	26,935	26,530	8,301	8,023	7,879	8,536
Total, 1st 30 institutions	1,486,251	1,448,346	1,406,110	1,308,107	352,325	376,329	381,847	357,222
31 U of Tennessee System	28,216	28,540	27,670	28,043	4,786	5,115	5,556	5,761
32 U MD College Park	27,036	23,152	21,707	28,708	6,068	6,259	3,865	4,240
33 Oklahoma State University	26,528	24,958	24,206	25,124	4,567	4,556	6,500	3,506
34 Clemson University	25,778	24,942	25,649	24,827	8,063	8,338	8,498	8,608
35 Washington State U	24,214	22,722	24,096	23,084	7,925	7,235	7,653	6,737
36 U CA Riverside	23,552	49,710	46,622	45,529	2,228	13,905	13,153	13,204
37 Pennsylvania State U	23,151	21,869	27,342	30,155	5,494	5,761	6,537	6,696
38 Montana St U Bozeman	23,132	24,063	23,523	25,395	5,855	4,956	5,487	5,788
39 Utah State University	21,294	20,574	17,542	17,529	8,531	8,234	6,004	6,468
40 Univ of Hawaii Manoa	18,099	15,466	15,244	11,097	6,737	6,258	3,476	2,161
Total, 1st 40 institutions	1,727,251	1,704,342	1,659,711	1,567,598	412,579	446,946	448,576	420,391
41 U MA Amherst	16,364	12,689	12,667	10,276	4,859	2,493	3,367	1,970
42 U of Washington	16,167	16,793	18,763	17,518	11,160	11,360	11,319	10,797
43 Tuskegee University	15,305	13,540	3,935	4,233	10,906	12,137	3,551	4,233
44 University of Delaware	14,927	12,308	10,910	11,326	2,367	1,875	1,868	1,880
45 New Mexico State Univ	13,880	17,464	17,345	17,233	5,071	4,874	5,494	5,186
46 University of Wyoming	11,805	9,851	10,847	11,968	5,427	4,210	4,340	4,570
47 South Dakota State U	10,361	10,504	9,406	8,561	3,621	3,154	3,027	3,028
48 U of Alaska Fairbanks	9,136 <i>i</i>	8,738 <i>i</i>	8,553 <i>i</i>	7,888 <i>i</i>	1,668 <i>i</i>	1,488 <i>i</i>	1,606 <i>i</i>	1,974 <i>i</i>
49 Texas Tech University	9,030	8,472	9,101	7,677	1,472	1,588	1,876	1,672
50 University of Connecticut	7,331	6,334	6,523	7,213	1,171	1,131	1,112	1,197
Total, 1st 50 institutions	1,851,557	1,821,035	1,767,761	1,671,491	460,301	491,256	486,136	456,898

See explanatory information and SOURCE at end of table.

**Table B-60. Total and federally financed R&D expenditures in the agricultural sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 U of Nevada Reno	6,788	10,334	5,820	8,461	2,036	2,122	2,691	2,678
52 West Virginia University	6,222	6,366	12,519	12,221	1,382	1,278	3,995	4,061
53 Sthrn IL U Carbondale	5,817	5,117	4,772	3,601	981	1,485	1,549	1,411
54 U MD Biotechnology Inst	5,723	5,145	4,958	3,592	1,997	1,510	1,140	1,046
55 University of Vermont	5,681	5,816	6,182	6,614	2,400	2,247	2,593	3,028
56 The University of Montana	5,623	5,587	5,457	5,401	3,118	2,902	2,659	2,558
57 U of Maine	5,556	7,086	10,010	8,831	1,823	3,407	4,198	4,087
58 U of New Hampshire	4,918	4,535	3,696	3,281	1,089	1,261	1,055	1,048
59 U of Rhode Island	4,781	2,007 <i>i</i>	1,492 <i>i</i>	3,448 <i>i</i>	4,219	403 <i>i</i>	395 <i>i</i>	384 <i>i</i>
60 Florida A&M University	4,737	5,309	5,063	5,448	3,506	4,417	4,335	4,916
Total, 1st 60 institutions	1,907,403	1,878,337	1,827,730	1,732,389	482,852	512,288	510,746	482,115
61 Alabama A&M University	4,734	4,209 <i>e</i>	4,124 <i>i</i>	4,039	3,421	3,369 <i>e</i>	3,300 <i>i</i>	3,231
62 Texas A&M Univ Kingsville	4,002	4,636 <i>i</i>	4,154 <i>i</i>	3,670 <i>i</i>	495	417 <i>i</i>	374 <i>i</i>	333 <i>i</i>
63 Alcorn State University	3,913	3,148 <i>i</i>	2,498	2,309 <i>i</i>	3,913	3,148 <i>i</i>	2,498	2,303 <i>i</i>
64 Tennessee State U	3,462	3,619	3,812	3,594	2,314	2,597	2,849	2,774
65 Prairie View A&M U	3,357	3,490	3,956	3,649	3,230	3,263	3,818	3,464
66 SUNY Col Env Sci Frstry	3,293 <i>i</i>	3,066 <i>i</i>	3,277 <i>i</i>	3,265 <i>i</i>	359 <i>i</i>	356 <i>i</i>	400 <i>i</i>	423 <i>i</i>
67 Michigan Tech University	3,146	2,901	2,143	2,057	2,309	2,007	1,198	1,393
68 U Arkansas Pine Bluff	3,077	3,022	1,987	3,620	2,225	2,287	1,638	2,649
69 Lincoln University	3,031 <i>i</i>	2,623	2,712	2,509	2,191 <i>i</i>	2,321	2,428	2,309
70 NC A&T State University	2,879	3,265	3,754	4,280	2,396	2,589	3,238	3,571
Total, 1st 70 institutions	1,942,297	1,912,316	1,860,147	1,765,381	505,705	534,642	532,487	504,565
71 Fort Valley State U	2,696	1,975	1,741	371 <i>i</i>	2,281	1,975	1,741	371 <i>i</i>
72 Southern U A&M All Camp	2,639	2,861	3,144	2,796	1,946	2,026	2,268	2,377
73 University of Michigan	2,592	0	0	3	1,533	0	0	1
74 Stephen F Austin St U	2,420	3,423	1,847	1,853	408	1,504	255	162
75 Georgia Institute of Tech	2,258	2,440	2,249	1,523	990	1,143	1,158	754
76 Humboldt State University	2,249	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>	1,455	0 <i>i</i>	0 <i>i</i>	0 <i>i</i>
77 West Texas A&M U	2,130	308 <i>i</i>	248 <i>i</i>	186 <i>i</i>	4	90 <i>i</i>	73 <i>i</i>	57 <i>i</i>
78 Northern Arizona U	2,059	2,532 <i>i</i>	2,962	3,157	710	1,640 <i>i</i>	1,391	1,311
79 Langston University	2,031	1,828	2,521	3,187	2,031	1,828	2,521	2,661
80 Delaware State University	1,964	1,420	581	226	1,839	1,311	505	190
Total, 1st 80 institutions	1,965,335	1,929,103	1,875,440	1,778,683	518,902	546,159	542,399	512,449
81 U of the Virgin Islands	1,821 <i>e</i>	1,821 <i>e</i>	1,821	1,497 <i>i</i>	1,818 <i>e</i>	1,818 <i>e</i>	1,818	1,260 <i>i</i>
82 Western Illinois U	1,613	1,519	1,320	1,976	1,122	1,010	977	1,558
83 Virginia State University	1,597	2,140	2,124	2,124	1,051	1,605	1,589	1,589
84 Yale University	1,529	1,557	1,610	1,542	776	678	711	694
85 U CA Santa Cruz	1,276	1,321	1,563	1,410	28	16	58	116
86 University of Guam	1,223	1,434 <i>i</i>	1,426 <i>i</i>	1,421 <i>i</i>	1,206	1,434 <i>i</i>	1,426 <i>i</i>	1,421 <i>i</i>
87 U MD Eastern Shore	1,200	1,129	800	690	1,200	1,129	800	690
88 U WI Stevens Point	996	1,222	1,525	1,794	262	397	627	825
89 Calif Polytechnic	855	954 <i>i</i>	898 <i>i</i>	846 <i>i</i>	39	583 <i>i</i>	437 <i>i</i>	277 <i>i</i>
90 U TX Austin	826	0	0	0	46	0	0	0
Total, 1st 90 institutions	1,978,271	1,942,200	1,888,527	1,791,983	526,450	554,829	550,842	520,879

See explanatory information and SOURCE at end of table.

**Table B-60. Total and federally financed R&D expenditures in the agricultural sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 Western Kentucky Univ	759i	518i	410i	304i	467i	0i	0i	0i
92 University of DC	727	892e	892	979i	362	362e	362	487i
93 Arizona State University	706	567	505	387	304	256	268	194
94 Occidental College	699i	0i	0i	0i	502i	0i	0i	0i
95 U MA Dartmouth	688	824	739	627	688	758	710	627
96 San Diego St University	654	1,590	1,718	3,025	618	1,590	1,718	3,025
97 Williams College	569i	112i	112i	112i	335i	109i	109i	109i
98 Kentucky State University	514	1,993	2,416	2,779	504	1,993	2,410	2,779
99 Illinois State University	468e	458	423	446	147e	144	185	179
100 Portland State University	453	223	328	0	396	144	328	0
Total, 1st 100 institutions	1,984,508	1,949,377	1,896,070	1,800,642	530,773	560,185	556,932	528,279
Total, all other sampled insts	5,408	4,549	8,611	9,025	1,943	2,124	2,258	2,810

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-61. Total and federally financed R&D expenditures in the biological sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	4,548,873	4,156,063	3,891,027	3,818,144	2,914,333	2,681,251	2,518,821	2,480,177
1 Baylor Col of Medicine	102,767	90,293	85,229	91,170	66,773	57,942	56,642	60,925
2 The Rockefeller Univ	102,569	97,090e	93,175	86,086	35,284	35,705e	29,516	32,723
3 U of Pennsylvania	98,883	81,693	74,468	67,228	74,506	63,478	59,160	54,616
4 Harvard University	98,793	90,128	85,984	84,081	87,418	75,938	71,178	69,578
5 Washington University	95,844	100,405	81,179	77,278	72,471	74,634	61,519	57,978
6 Texas A&M University	88,641	75,452	73,982	76,878	20,423	15,428	14,897	16,392
7 U WI Madison	86,299	82,079	71,681	69,826	45,740	44,225	39,104	36,604
8 U of Washington	83,666	79,935	80,653	75,727	69,824	68,837	68,981	63,820
9 University of Michigan	81,606	67,366	68,429	72,862	55,139	46,141	46,486	53,600
10 Johns Hopkins U	79,603i	74,819	69,186	65,692	61,961 i	59,159	54,846	55,637
Total, 1st 10 institutions	918,671	839,260	783,966	766,828	589,539	541,487	502,329	501,873
11 U of NC Chapel Hill	77,094	73,124	67,728	67,242	59,372	52,158	51,406	50,790
12 Yale University	73,251	72,801	71,417	66,494	61,187	59,995	56,911	54,693
13 U TX SW Med Ctr Dallas	70,310	65,159	57,223	51,101	48,414	44,924	38,544	36,269
14 Columbia University	67,051	62,300	58,347	58,032	59,234	54,053	48,345	46,933
15 Tufts University	65,091	58,311	53,902	55,495	46,613	41,922	38,386	38,247
16 U TX MD Anderson Cnrc	61,342	54,206	52,929	54,416	27,871	23,572	20,211	20,660
17 U of Alabama Birmingham	59,679	57,694	45,692	43,566	45,928	44,772	35,906	32,247
18 NC State University	59,658	48,201	37,116	39,722	14,900	14,387	13,358	15,237
19 University of Georgia	57,443	66,483	57,002	58,459	27,760	27,786	27,379	27,617
20 U CA Berkeley	57,018	50,229	46,823	43,302	37,810	39,977	37,843	33,454
Total, 1st 20 institutions	1,566,608	1,447,768	1,332,145	1,304,657	1,018,628	945,033	870,618	858,020
21 Vanderbilt University	55,890	50,932	50,517	48,729	48,206	43,197	42,082	40,708
22 Northwestern University	53,124	42,983	40,760	36,554	35,196	29,391	26,349	24,251
23 Cornell University	52,606	49,038	47,432	47,670	29,908	27,844	27,213	27,503
24 Duke University	51,802	38,865	35,819	38,094	43,610	31,929	28,942	31,593
25 Michigan State University	51,575	49,779	39,366	39,718	26,600	26,286	22,840	23,104
26 University of Arizona	51,099	47,202	46,851	43,549	27,714	25,141	25,248	22,850
27 U CA Los Angeles	50,563	16,113	16,444	18,084	36,359	13,283	13,771	14,874
28 University of Minnesota	50,431	46,667	44,279	43,890	33,549	30,417	28,772	27,860
29 U CA Irvine	46,390	42,189	41,790	36,666	28,394	30,139	30,306	28,944
30 Pennsylvania State U	46,249	43,595	40,491	39,561	20,790	27,385	25,677	26,054
Total, 1st 30 institutions	2,076,337	1,875,131	1,735,894	1,697,172	1,348,954	1,230,045	1,141,818	1,125,761
31 University of Florida	45,592	48,499	39,176	26,643	23,676	23,676	18,350	16,436
32 U CA Davis	45,546	8,144	8,272	38,823	16,322	3,383	3,757	18,621
33 U Med & Dent NJ	45,160	46,139	41,253	39,349	27,962	26,830	19,702	16,511
34 University of Cincinnati	45,159	35,761	33,198	36,254	29,132	22,736	21,652	24,257
35 Ohio State University	43,622	41,428	36,717	39,737	24,693	24,511	23,204	23,121
36 Purdue University	43,305	42,484	43,824	44,935	17,283	17,621	20,026	20,181
37 SUNY Buffalo	43,013	38,429	36,007	40,330	27,738	27,854	25,605	22,168
38 Louisiana St U, All Camp	42,916	43,784	41,588	41,413	25,422	23,000	22,993	24,513
39 MA Institute of Tech	42,744	42,427	36,104	35,398	33,826	32,807	29,882	31,514
40 SUNY Stony Brook	42,708	37,263	35,557	34,488	28,204	24,638	23,086	22,613
Total, 1st 40 institutions	2,516,102	2,259,489	2,087,590	2,074,542	1,603,212	1,457,101	1,350,075	1,345,696
41 Case Western Reserve U	42,420	37,709	36,931	63,720	31,789	27,331	28,920	52,120
42 University of Colorado	41,438	38,274	36,427	36,384	32,731	31,599	28,302	28,043
43 New York University	41,339	40,876	38,676	39,328	33,767	31,367	29,443	29,343
44 Rutgers the State U NJ	40,216	35,644	34,800	37,659	11,162	9,769	10,122	11,990
45 Mt Sinai Sch Med	39,868	27,337	23,239	19,012	30,207	20,184	16,350	15,740
46 University of Kansas	37,581	39,529	36,775	30,627	20,141	19,116	16,246	13,344
47 Emory University	37,531	34,336	29,654	27,574	31,097	27,045	24,593	23,444
48 Thomas Jefferson U	37,076	36,870	37,474	34,596	30,322	28,351	31,257	29,338
49 Washington State U	35,230	31,275	29,619	27,240	18,043	14,685	13,997	13,103
50 Indiana University	34,999	32,255	31,579	26,433	22,259	21,954	20,661	18,345
Total, 1st 50 institutions	2,903,800	2,613,594	2,422,764	2,417,115	1,864,730	1,688,502	1,569,966	1,580,506

See explanatory information and SOURCE at end of table.

**Table B-61. Total and federally financed R&D expenditures in the biological sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 U of Iowa	34,996	31,113	27,391	25,505	21,700	20,347	18,067	17,344
52 University of Chicago	33,593	34,951	33,029	22,993	28,013	28,666	28,469	19,718
53 California Inst of Tech	32,425	31,240	24,137	27,462	31,416	27,510	20,351	21,635
54 University of Rochester	32,171	31,879	31,883	32,811	26,412	26,405	26,461	28,708
55 U TX Hlth Sci Ctr San Ant	31,623	29,050	28,612	30,638	23,429	19,757	20,748	20,415
56 Iowa State University	31,045	29,661	27,422	30,288	9,505	8,322	8,020	9,680
57 University of Utah	30,992	32,361	26,829	24,998	24,931	25,067	22,654	20,148
58 U of Illinois Urbana	30,011	28,296	25,003	22,610	19,644	19,655	17,576	16,631
59 U of NE Med Ctr Omaha	29,850	27,035	25,774	25,182	10,148	9,438	8,917	9,159
60 U MA Worcester	29,038	21,357	18,338	19,740	26,023	18,105	15,461	17,237
Total, 1st 60 institutions	3,219,544	2,910,537	2,691,182	2,679,342	2,085,951	1,891,774	1,756,690	1,761,181
61 U of Missouri Columbia	28,980	27,651	26,197	26,156	11,328	11,572	11,091	9,813
62 SUNY Albany	28,221	37,106	44,725	19,432	23,274	30,678	37,400	14,323
63 Allegheny U of Hlth Sci	28,080	23,384	18,893	16,190	22,402	17,507	14,796	13,137
64 University of IL Chicago	27,997	26,615	23,469	23,492	16,080	16,624	13,986	14,102
65 University of Virginia	26,954	22,762	22,379	28,329	21,108	18,180	18,133	23,086
66 University of Connecticut	26,519	26,697	30,027	26,790	14,489	14,493	16,464	14,953
67 U CA Riverside	25,184	3,998	4,020	4,116	6,562	1,864	2,015	1,788
68 Oregon Health Sciences U	24,666i	23,281i	18,534i	17,413i	19,032i	18,384i	13,750i	13,239i
69 Yeshiva University	24,000	25,173	23,772	24,632i	18,400	20,263	20,551	18,754i
70 Colorado State University	23,940	23,184	23,366	25,580	13,233	14,143	14,559	17,101
Total, 1st 70 institutions	3,484,085	3,150,388	2,926,564	2,891,472	2,251,859	2,055,482	1,919,435	1,901,477
71 University of Oklahoma	23,860	23,022	22,121	17,890	13,559	12,804	11,156	8,785
72 Virginia Commonwealth U	23,729	24,490	24,509	24,437	17,491	17,595	17,357	18,133
73 UT-Houston Hlth Sci Ctr	23,716	20,458	16,964	16,010	16,123	13,168	12,633	11,950
74 U of Tennessee System	23,363	23,300	22,344	22,512	16,148	16,485	15,821	16,039
75 Oregon State University	21,883	19,696	17,982	18,103	10,497	10,018	9,511	8,080
76 U CA San Diego	21,625	22,897	20,249	15,176	14,991	17,115	16,849	14,054
77 U of MD Baltimore	21,498	20,221	18,331	16,181	11,706	10,815	9,782	8,939
78 Medical Col of Wisconsin	20,448	17,037	14,446	7,067	15,998	12,990	10,531	4,976
79 Brandeis University	20,304	19,992	17,513	17,360	14,762	14,375	12,497	12,538
80 Medical Col of Georgia	20,246	16,640	12,668	14,135	7,561	6,141	5,214	5,932
Total, 1st 80 institutions	3,704,757	3,358,141	3,113,691	3,060,343	2,390,695	2,186,988	2,040,786	2,010,903
81 University of New Mexico	20,134	16,193	15,644	16,599	15,085	12,072	11,125	11,255
82 Temple University	19,655	19,650	20,449	19,458	12,220	10,226	10,869	10,834
83 Clemson University	18,366	11,310	11,093	10,503	5,745	3,781	3,675	3,641
84 University of Miami	18,103	16,977	14,833	15,371	14,783	14,689	12,848	12,871
85 U MD Biotechnology Inst	18,024	16,823	11,578	8,813	4,765	3,000	2,793	2,738
86 Princeton University	17,843	17,693	18,840	17,175	11,424	11,512	11,985	9,363
87 University of Vermont	17,619	18,590	17,820	18,443	12,569	13,931	12,913	13,631
88 U TX Austin	16,100	19,348	15,040	13,712	12,589	11,117	10,901	10,272
89 Kansas State University	15,689	15,504	14,030	12,510	7,206	7,369	6,831	5,853
90 Loyola U of Chicago	13,570	8,573	12,243	12,276i	9,131	5,456	5,441	7,509i
Total, 1st 90 institutions	3,879,860	3,518,802	3,265,261	3,205,203	2,496,212	2,280,141	2,130,167	2,098,870

See explanatory information and SOURCE at end of table.

**Table B-61. Total and federally financed R&D expenditures in the biological sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 Med U of South Carolina	13,360	12,028	11,803	12,765	8,130	8,733	9,106	9,199
92 U of Nebraska Lincoln	12,986i	12,793	12,226	11,373	3,929i	3,870	4,212	3,668
93 Morehouse School of Med	12,768	12,367	12,007	7,179	11,638	11,299	10,686	6,685
94 Georgetown University	11,698	12,243	11,282	12,056	9,055	9,786	9,188	9,642
95 U of Nevada Reno	11,015	8,151	9,110	8,991	7,777	6,738	6,326	6,031
96 New York Medical College	10,916	10,325	9,081	10,121	8,374	8,190	7,527	8,462
97 Eastern VA Med School	10,901	7,138	5,623	5,773	2,581	2,650	1,820	1,985
98 Stanford University	10,837	11,495	11,941	11,137	8,712	9,310	9,898	9,433
99 U of Alaska Fairbanks	10,426i	9,874i	9,804i	9,499i	3,173i	2,833i	3,057i	3,755i
100 Oklahoma State University ...	10,421	9,238	11,915	13,617	4,404	4,051	4,391	4,118
Total, 1st 100 institutions	3,995,188	3,624,454	3,370,053	3,307,714	2,563,985	2,347,601	2,196,378	2,161,848
Total, all other sampled insts	553,685	531,609	520,974	510,430	350,348	333,650	322,443	318,329

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-62. Total and federally financed R&D expenditures in the medical sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	7,455,698	6,854,622	6,389,506	6,068,723	4,546,066	4,286,370	4,023,097	3,826,112
1 U CA San Francisco	379,970	334,206	320,757	329,742	219,912	229,323	221,864	224,271
2 U CA Los Angeles	262,859	235,899	219,548	166,620	123,147	145,382	143,838	106,346
3 Johns Hopkins U	228,317 <i>i</i>	221,924	203,375	198,965	176,533 <i>i</i>	168,051	158,357	156,737
4 U of Washington	184,673	173,628	163,576	161,354	138,569	131,118	119,752	113,775
5 Stanford University	184,049	164,997	148,022	135,495	145,985	131,199	119,809	111,924
6 U CA San Diego	176,274	162,202	159,294	149,869	112,174	120,131	126,292	122,183
7 Duke University	175,432	163,325	158,088	135,568	88,740	89,368	85,907	83,443
8 University of Pittsburgh	172,822	159,996	148,581	143,240	138,271	130,338	119,929	115,832
9 University of Michigan	169,739	151,075	141,748	136,096	105,041	93,761	86,399	82,009
10 U of Pennsylvania	160,236	137,670	135,127	128,453	118,314	101,955	100,931	94,615
Total, 1st 10 institutions	2,094,371	1,904,922	1,798,116	1,685,402	1,366,686	1,340,626	1,283,078	1,211,135
11 Yale University	150,623	136,212	126,001	122,663	112,451	100,781	92,003	88,793
12 U of Alabama Birmingham	150,571	126,832	111,179	102,167	108,723	91,176	82,208	69,669
13 University of Minnesota	148,478	157,561	141,957	136,409	97,374	95,593	95,649	89,585
14 U WI Madison	146,515	134,944	139,136	134,111	71,332	68,726	70,926	70,036
15 Washington University	134,460	126,331	107,633	101,339	86,250	85,426	71,038	65,968
16 U of Southern California	128,732	122,287	121,104	105,546	81,569	81,078	76,323	67,269
17 Cornell University	117,170	106,998	104,182	100,463	68,326	62,758	61,359	64,462
18 U of MD Baltimore	114,657	107,847	97,766	86,299	62,430	57,680	52,168	47,677
19 Baylor Col of Medicine	113,761	102,451	99,384	99,205	43,837	39,887	35,652	33,272
20 U of Iowa	110,821	103,642	101,434	92,461	67,335	62,836	62,411	60,267
Total, 1st 20 institutions	3,410,159	3,130,027	2,947,892	2,766,065	2,166,313	2,086,567	1,982,815	1,868,133
21 Columbia University	103,503	94,368	92,565	94,989	85,197	80,920	76,048	78,833
22 Wayne State University	99,380	89,512	81,331	76,026	43,857	40,706	35,670	36,228
23 Emory University	98,669	90,209	83,002	85,420	61,269	54,810	47,361	48,231
24 University of Colorado	97,047	88,172	75,876	69,281	70,452	65,335	59,285	55,420
25 Harvard University	96,679	92,939	92,294	90,012	76,573	62,116	58,532	61,177
26 Georgetown University	92,522	95,233	89,366	78,434	68,439	67,431	64,997	56,823
27 Case Western Reserve U	90,884	83,224	69,401	41,099	74,591	66,908	57,591	32,219
28 U of NC Chapel Hill	85,172	78,781	67,640	70,259	67,008	57,697	52,578	55,391
29 U TX Med Br Galveston	85,150	76,466	73,707	72,419	48,310	41,831	38,323	33,204
30 University of Cincinnati	84,419	80,108	70,015	28,875	44,963	40,918	36,871	15,173
Total, 1st 30 institutions	4,343,584	3,999,039	3,743,089	3,472,879	2,806,972	2,665,239	2,510,071	2,340,832
31 U TX SW Med Ctr Dallas	83,166	75,254	72,753	74,200	48,602	44,310	42,781	42,623
32 U CA Davis	80,792	66,184	64,807	65,773	43,548	43,388	41,660	44,143
33 Boston University	76,460	73,202	68,016	66,860	61,463	59,729	54,743	53,097
34 University of IL Chicago	76,133	69,364	58,920	59,331	37,183	33,486	26,762	28,159
35 Wake Forest University	75,480	73,572	72,320	66,345	55,568	52,972	53,451	49,233
36 University of Rochester	74,785	57,731	55,063	58,586	47,813	37,770	37,575	40,080
37 University of Miami	74,257	77,420	74,202	71,506	47,239	50,413	48,739	47,419
38 Northwestern University	73,987	67,978	60,163	52,568	38,843	38,230	29,944	24,026
39 U TX MD Anderson Cnrc	73,758	70,244	62,938	62,307	32,476	23,952	20,498	21,545
40 Indiana University	70,782	63,429	58,467	55,110	39,839	36,330	33,469	29,445
Total, 1st 40 institutions	5,103,184	4,693,417	4,390,738	4,105,465	3,259,546	3,085,819	2,899,693	2,720,602
41 Mt Sinai Sch Med	69,580	67,439	69,166	72,996	39,788	40,730	45,249	43,251
42 University of Chicago	69,343	68,044	60,704	61,435	59,667	56,063	51,379	50,543
43 U Med & Dent NJ	69,331	64,244	57,282	57,016	31,866	30,641	27,803	29,223
44 Oregon Health Sciences U	67,415 <i>i</i>	62,501 <i>i</i>	52,123 <i>i</i>	48,109 <i>i</i>	40,391 <i>i</i>	39,017 <i>i</i>	29,183 <i>i</i>	28,096 <i>i</i>
45 UT-Houston Hlth Sci Ctr	67,368	42,298	40,231	55,758	47,636	25,104	24,668	42,330
46 Allegheny U of Hlth Sci	65,697	55,887	23,225	22,387	37,048	28,038	10,583	9,683
47 U CA Berkeley	63,545	40,350	29,585	21,235	14,797	14,781	13,082	11,150
48 University of Kentucky	62,164	50,812	46,568	44,194	35,993	34,133	27,624	26,822
49 U of South Florida	61,344	56,343	54,903	52,620	14,157	11,465	10,167	9,644
50 University of Florida	58,587	56,988	54,237	41,668	28,364	22,517	23,762	22,360
Total, 1st 50 institutions	5,757,558	5,258,323	4,878,762	4,582,883	3,609,253	3,388,308	3,163,193	2,993,704

See explanatory information and SOURCE at end of table.

**Table B-62. Total and federally financed R&D expenditures in the medical sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 Ohio State University	57,282	50,447	49,981	52,382	31,983	29,391	28,564	27,636
52 Yeshiva University	54,000	50,346	47,543	49,264 <i>i</i>	44,000	40,527	38,166	37,508 <i>i</i>
53 U TX Hlth Sci Ctr San Ant	53,784	56,969	54,416	56,698	31,575	33,721	30,455	34,018
54 University of Arizona	53,700	51,266	51,353	51,357	31,479	30,558	32,658	33,007
55 University of Virginia	52,491	43,795	31,474	55,134	32,120	28,989	23,198	26,620
56 New York University	47,809	48,259	49,825	53,363	27,970	28,446	29,632	32,732
57 Dartmouth College	47,545	39,507	39,034	37,882	33,129	31,328	28,985	29,458
58 Vanderbilt University	45,505	39,362	34,104	29,130	31,623	29,497	27,280	24,247
59 Virginia Commonwealth U	45,006	43,122	44,793	43,237	25,062	22,671	24,642	24,911
60 SUNY Buffalo	43,556	45,886	44,628	43,603	16,871	19,859	21,398	25,215
Total, 1st 60 institutions	6,258,236	5,727,282	5,325,913	5,054,933	3,915,065	3,683,295	3,448,171	3,289,056
61 University of Connecticut	43,083	41,994	41,544	38,138	19,884	18,751	17,938	17,113
62 Rush University	40,024	35,549	30,684	24,948	19,531	16,267	12,429	7,705
63 U CA Irvine	38,868	29,220	32,011	34,832	12,453	12,059	11,823	12,243
64 University of Utah	38,269	41,520	39,448	39,358	30,127	31,693	32,528	31,010
65 Medical Col of Wisconsin	35,573	34,592	32,919	37,102	27,833	26,374	23,996	26,122
66 SUNY Stony Brook	35,060	34,523	29,217	25,782	20,786	18,927	17,751	16,468
67 U Arkansas Medical Sci	32,375	29,989	24,359	20,071	15,196	13,088	11,288	10,649
68 Thomas Jefferson U	31,765	31,999	31,460	30,581	20,905	20,381	20,009	19,470
69 U of Tennessee System	30,813	28,708	26,544	26,847	14,057	14,965	13,758	13,642
70 U MA Worcester	29,843	27,134	25,196	22,911	26,152	23,841	23,130	18,120
Total, 1st 70 institutions	6,613,909	6,062,510	5,639,295	5,355,503	4,121,989	3,879,641	3,632,821	3,461,598
71 University of Oklahoma	28,875	23,475	23,168	19,961	12,987	11,592	9,650	7,344
72 Med U of South Carolina	28,019	37,884	30,745	34,913	16,107	22,704	20,381	18,379
73 George Washington U	26,576	21,538	24,208	18,514	13,740	11,749	12,105	10,879
74 Tulane University	26,425	25,827	23,849	24,455	10,415	10,279	9,649	11,255
75 Pennsylvania State U	26,030	24,330	21,902	19,373	24,068	15,855	13,189	10,422
76 Temple University	24,852	20,110	19,807	19,233	8,402	8,551	8,701	8,389
77 U of Missouri Columbia	24,529	20,972	17,746	20,692	9,114	6,896	5,011	4,331
78 University of Vermont	24,124	25,134	21,041	20,028	11,216	13,142	11,901	12,159
79 Brown University	23,617	21,656	19,402	16,178	15,621	14,437	12,750	11,564
80 U of NE Med Ctr Omaha	20,603	18,330	16,838	13,105	5,515	4,552	5,112	4,216
Total, 1st 80 institutions	6,867,559	6,301,766	5,858,001	5,561,955	4,249,174	3,999,398	3,741,270	3,560,536
81 University of Louisville	20,056	17,924	13,495	9,918	5,952	5,880	4,939	3,865
82 U PR Med Sci Campus	19,830	15,575	15,005	17,354	11,843	12,978	12,191	12,433
83 Louisiana St U, All Camp	19,686	19,972	17,691	17,414	8,459	8,410	8,429	8,701
84 SUNY Hlth Sci Ctr Brklyn	19,609	21,559	22,162 <i>i</i>	22,763	13,714	13,787	13,520 <i>i</i>	13,252
85 Medical Col of Georgia	19,434	22,003	22,962	16,960	5,566	5,763	6,118	5,075
86 West Virginia University	18,671	16,136	9,327	8,695	5,430	4,214	4,249	4,055
87 University of Georgia	18,324	16,635	16,998	16,526	2,182	2,032	2,452	2,844
88 C R Drew U of Med & Sci	17,205e	17,205e	16,386 <i>i</i>	12,500	16,052e	16,052e	15,288 <i>i</i>	10,500
89 Univ of Hawaii Manoa	16,630	15,129	11,519	1,740	11,987	10,631	8,556	1,424
90 Rutgers the State U NJ	16,364	16,520	16,311	15,782	8,356	8,159	6,987	7,223
Total, 1st 90 institutions	7,053,368	6,480,424	6,019,857	5,701,607	4,338,715	4,087,304	3,823,999	3,629,908

See explanatory information and SOURCE at end of table.

**Table B-62. Total and federally financed R&D expenditures in the medical sciences
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 Loyola U of Chicago	15,410	17,315	10,665	14,350 <i>i</i>	6,545	7,576	7,454	9,078 <i>i</i>
92 U Mississippi, All Camp	13,970	12,163	11,194	10,499	6,274	5,347	4,975	4,945
93 University of Kansas	13,755	13,139	13,735	20,724	3,762	4,789	4,653	8,608
94 U of South Carolina	13,375	13,016	13,887	11,632	6,377	6,552	7,256	6,027
95 Saint Louis University	13,278	12,142	12,273	11,765	11,213	10,167	9,462	9,248
96 Purdue University	13,218	12,064	10,883	10,613	5,576	5,330	4,398	5,076
97 Michigan State University	12,554	11,133	11,638	12,253	6,381	5,670	5,928	6,033
98 Creighton University	11,652	10,388	9,212	9,402	2,833	3,847	3,837	3,369
99 Georgia Institute of Tech	11,543	2,546	991	1,395	5,061	1,193	510	691
100 University of New Mexico	11,136	9,753	9,904	10,732	7,652	7,275	7,043	6,815
Total, 1st 100 institutions	7,183,259	6,594,083	6,124,239	5,814,972	4,400,389	4,145,050	3,879,515	3,689,798
Total, all other sampled insts	272,439	260,539	265,267	253,751	145,677	141,320	143,582	136,314

NOTE: Because of rounding, detail may not add to totals.

KEY:

- = not available
- e = estimated
- i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-63. Total and federally financed R&D expenditures in psychology
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	436,905	389,414	376,415	366,759	297,029	271,411	257,154	247,789
1 U WI Madison	17,973	15,738	14,989	13,257	14,027	11,896	11,671	10,196
2 University of Michigan	10,712	8,648	9,718	9,091	5,412	4,443	5,571	5,724
3 U of Washington	9,911	8,753	8,305	7,734	8,925	7,910	7,400	6,958
4 Pennsylvania State U	8,864	6,345	6,612	6,590	5,676	4,640	4,352	3,913
5 University of Oklahoma	7,845	5,731	4,580	4,267	3,006	1,981	1,354	1,025
6 U CA Berkeley	7,449	5,870	6,331	7,149	4,367	3,737	4,334	4,735
7 Georgia State University	7,412	5,621	3,812	2,793	3,030	2,668	2,049	1,676
8 U CA Los Angeles	7,374	7,041	7,676	8,369	5,106	5,301	5,568	6,008
9 University of Colorado	7,348	6,814	7,119	7,205	4,099	4,491	4,835	4,657
10 Indiana University	7,210	6,863	6,846	6,586	5,460	5,236	4,660	4,405
Total, 1st 10 institutions	92,098	77,424	75,988	73,041	59,108	52,303	51,794	49,297
11 Rutgers the State U NJ	7,153	6,013	6,943	6,824	3,087	3,087	3,502	3,436
12 U of South Florida	7,004	5,066	4,674	4,748	3,259	1,877	1,696	1,635
13 University of Minnesota	6,930	6,983	7,198	8,462	5,471	5,389	5,672	6,549
14 University of Rochester	6,649	5,927	6,101	6,113	3,323	2,707	3,230	3,084
15 The University of Memphis ...	6,405	5,832	4,353	3,664	2,711	2,637	2,090	1,942
16 Carnegie Mellon U	6,382	5,558	5,291	5,341	4,134	4,124	3,780	3,542
17 U of Illinois Urbana	6,114	4,923	5,566	5,775	3,745	3,358	4,042	4,370
18 University of Georgia	6,025	5,271	5,697	6,386	2,221	1,663	2,206	3,030
19 Princeton University	5,978	5,277	5,743	5,745	5,086	4,072	4,518	4,306
20 Arizona State University	5,960	5,573	4,566	3,692	4,426	4,147	3,196	2,345
Total, 1st 20 institutions	156,698	133,847	132,120	129,791	96,571	85,364	85,726	83,536
21 Temple University	5,829	3,507	4,167	4,793	3,151	2,158	3,103	3,891
22 Cornell University	5,642	4,577	4,757	4,246	2,103	1,937	2,252	2,043
23 SUNY Buffalo	5,590	4,340	6,998	6,303	4,223	3,594	6,417	1,958
24 New York University	5,455	5,287	4,773	5,170	4,251	4,555	4,112	4,395
25 U of Alabama Birmingham ...	5,403	5,916	970	1,234	4,989	5,408	793	1,006
26 University of Miami	5,276	4,204	2,599	2,261	5,055	4,114	2,499	2,076
27 University of Connecticut	5,189	5,477	5,655	7,063	2,545	2,486	2,670	2,993
28 Oregon Health Sciences U ...	4,908 <i>i</i>	4,684 <i>i</i>	3,623 <i>i</i>	3,444 <i>i</i>	4,311 <i>i</i>	4,165 <i>i</i>	3,116 <i>i</i>	3,001 <i>i</i>
29 U of Rhode Island	4,855	3,457 <i>i</i>	3,471 <i>i</i>	3,413 <i>i</i>	4,490	3,326 <i>i</i>	3,242 <i>i</i>	3,159 <i>i</i>
30 San Diego St University	4,650	3,383	3,327	2,738	2,761	2,610	2,676	2,383
Total, 1st 30 institutions	209,495	178,679	172,460	170,456	134,450	119,717	116,606	110,441
31 Duke University	4,472	4,705	4,243	4,141	4,031	3,732	3,296	3,152
32 University of Pittsburgh	4,293	3,037	3,023	3,099	4,037	2,790	2,909	2,961
33 U MA Amherst	4,135	3,447	2,529	2,432	3,009	2,515	1,992	1,972
34 Florida State University	4,027	3,363	2,659	3,004	2,728	2,242	1,346	1,337
35 University of New Mexico	3,950	3,916	3,283	2,518	2,663	2,822	2,446	1,906
36 Colorado State University	3,916	2,729	2,394	2,361	3,044	2,480	2,095	2,173
37 Harvard University	3,854	3,142	3,173	3,166	3,422	2,521	2,602	2,556
38 Stanford University	3,834	4,082	3,488	2,979	3,418	3,477	3,026	2,541
39 Ohio State University	3,830	3,879	2,982	2,294	2,716	2,846	1,961	1,690
40 U CA San Diego	3,552	3,394	4,216	4,394	2,448	2,610	3,367	3,635
Total, 1st 40 institutions	249,358	214,373	204,450	200,844	165,966	147,752	141,646	134,364
41 Johns Hopkins U	3,484	1,641	1,031	1,004	3,371	1,543	1,004	957
42 U of Southern California	3,483	2,227	2,446	2,397	3,140	1,912	2,122	2,072
43 U of Missouri Columbia	3,474	2,548	2,716	2,344	2,426	1,511	1,560	1,058
44 University of Florida	3,472	2,910	2,365	2,473	2,289	2,062	1,444	1,260
45 University of IL Chicago	3,445	4,160	3,487	1,947	2,298	3,142	2,621	1,317
46 U of South Carolina	3,231	1,828	1,419	1,483	2,470	1,374	1,348	1,111
47 SUNY Binghamton	3,171	4,005	3,594	3,500	1,230	1,348	1,253	1,472
48 U of NC Chapel Hill	3,149	3,643	4,048	3,682	2,979	3,101	3,798	3,475
49 University of Virginia	3,124	2,702	2,545	2,602	2,657	2,225	2,151	2,131
50 U of Pennsylvania	3,111	2,752	2,152	2,347	2,937	2,626	1,920	2,180
Total, 1st 50 institutions	282,502	242,789	230,253	224,623	191,763	168,596	160,867	151,397

See explanatory information and SOURCE at end of table.

**Table B-63. Total and federally financed R&D expenditures in psychology
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 Yale University	3,089	3,212	4,894	6,240	2,401	2,157	2,388	2,525
52 U TX Austin	3,072	2,663	4,347	3,273	2,584	2,404	3,255	2,583
53 University of Houston	3,002	2,852	2,865	3,022	2,090	1,888	2,036	2,320
54 Wayne State University	2,980	1,929	1,886	1,835	2,035	1,406	1,155	1,311
55 VA Polytech Inst & St U	2,971	2,358	2,191	2,010	2,046	1,551	1,473	1,262
56 San Jose State University	2,938e	2,938i	2,938i	2,938i	2,698e	2,698i	2,698i	2,698i
57 Columbia University	2,932	2,685	2,387	2,350	2,818	2,619	2,222	2,203
58 Georgia Institute of Tech	2,920	2,450	2,440	2,046	1,280	1,148	1,256	1,013
59 Rush University	2,899	2,612	3,716	5,270	979	665	604	1,143
60 Virginia Commonwealth U	2,864	1,771	1,141	1,730	1,007	825	372	961
Total, 1st 60 institutions	312,169	268,259	259,058	255,337	211,701	185,957	178,326	169,416
61 SUNY Stony Brook	2,705	2,798	2,614	2,920	2,077	2,051	2,039	2,339
62 U of Iowa	2,689	2,724	1,923	1,347	2,269	2,282	1,580	1,057
63 U CA Irvine	2,658	2,155	1,953	1,281	2,273	2,070	1,896	1,240
64 Brown University	2,514	2,574	2,140	1,392	1,600	1,611	1,403	869
65 Purdue University	2,497	2,553	2,426	2,788	1,771	1,565	1,522	1,703
66 SUNY Albany	2,416	2,403	3,309	3,200	1,975	1,803	2,401	2,422
67 U CA Riverside	2,364	1,490	1,174	1,292	2,171	1,435	1,151	1,179
68 Boston University	2,271	1,659	250	195	1,800	1,307	157	97
69 Texas A&M University	2,236	2,334	1,592	1,659	1,402	1,162	643	588
70 Texas Christian U	2,225	2,176	1,948	1,698	2,221	2,169	1,868	1,478
Total, 1st 70 institutions	336,744	291,125	278,387	273,109	231,260	203,412	192,986	182,388
71 Michigan State University	2,205	2,671	2,250	2,290	1,256	1,805	1,227	966
72 University of Arizona	2,205	2,053	1,939	1,991	874	774	744	1,172
73 Tufts University	2,168	2,040	1,918	1,805	1,300	1,347	1,192	1,150
74 Teachers Col, Columbia U	2,145	680	395	353i	1,490	465	262	226i
75 Kent State University	2,045	2,188	1,246i	1,162i	1,415	1,558	868i	731i
76 University of Oregon	2,036	2,011	1,920	1,592	1,552	1,637	1,281	1,133
77 Vanderbilt University	2,011	2,369	2,453	3,051	1,644	1,885	1,994	2,437
78 U of Missouri St Louis	2,000	922	906	712	821	544	681	585
79 Northwestern University	1,962	1,308	1,458	1,588	1,522	1,112	1,196	1,375
80 George Mason University	1,954	1,532	1,624	952	1,787	1,265	1,279	682
Total, 1st 80 institutions	357,475	308,899	294,496	288,605	244,921	215,804	203,710	192,845
81 CUNY Hunter College	1,913	1,597	1,723	1,390	1,000	922	1,009	866
82 University of Chicago	1,887	1,297	1,685	1,444	1,225	810	1,347	1,104
83 U of New Hampshire	1,819	1,207	299	654	1,624	1,095	237	606
84 Syracuse University	1,798	959i	960	968	701	573i	442	469
85 CA Sch Prof Psy Fresno	1,777	1,399	1,570	1,424i	608	811	895	673i
86 University of Denver	1,699	1,532	1,385	1,450	1,627	1,464	1,304	1,369
87 U CA Davis	1,558	1,720	1,642	1,684	1,407	1,634	1,547	1,534
88 U TX Dallas	1,541	889	650	604i	1,382	830	365	297i
89 U MD College Park	1,530	2,455	1,979	1,319	1,156	1,318	1,317	789
90 Brandeis University	1,483	1,275	1,212	1,041	1,272	1,025	1,003	893
Total, 1st 90 institutions	374,480	323,229	307,601	300,583	256,923	226,286	213,176	201,445

See explanatory information and SOURCE at end of table.

**Table B-63. Total and federally financed R&D expenditures in psychology
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 Catholic U of America	1,444	924	639	642	1,396	860	592	545
92 University of Delaware	1,439	1,312	1,106	796	957	858	608	472
93 U CA Santa Barbara	1,420	5,079	3,564	2,545	1,206	4,190	2,589	1,795
94 Emory University	1,383	2,918	1,529	1,407	805	2,103	1,245	1,158
95 Florida Atlantic U	1,342	1,613	1,297	1,216	1,205	1,420	1,000	1,162
96 U PR Rio Piedras	1,307	1,311	750	309	1,148	1,205	681	290
97 SUNY Grad Sch & U Ctr	1,293	1,780	1,238 <i>i</i>	874 <i>i</i>	207	469	318 <i>i</i>	280 <i>i</i>
98 U CA Santa Cruz	1,239	969	685	633	776	772	456	252
99 U of Nebraska Lincoln	1,177 <i>i</i>	1,161	1,418	1,008	333 <i>i</i>	329	512	342
100 U of Nevada Reno	1,147	865	703	667	599	263	278	251
Total, 1st 100 institutions	387,671	341,161	320,530	310,680	265,555	238,755	221,455	207,992
Total, all other sampled insts	49,234	48,253	55,885	56,079	31,474	32,656	35,699	39,797

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-64. R&D expenditures in the social sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Eco-nomics	Political science	Soci-ology	Other
Total, all institutions	1,121,024	1,100,547	1,089,712	1,013,517	260,861	177,976	249,286	432,901
1 University of Michigan	48,299	58,366	58,942	45,344	15,911	6,451	12,316	13,621
2 Pennsylvania State U	44,048	38,006	30,178	22,132	10,077	1,600	11,563	20,808
3 U MD College Park	41,544	29,374	29,880	20,862	5,869	4,711	1,891	29,073
4 Harvard University	39,501	44,843	45,553	45,545	22,732	15,783	298	688
5 U CA Berkeley	35,559	34,916	32,559	28,816	4,277	12,193	7,942	11,147
6 U WI Madison	28,827	27,384	29,744	29,322	12,211	1,125	6,368	9,123
7 University of Georgia	27,512	27,111	26,422	24,019	9,679	2,257	1,426	14,150
8 U CA Los Angeles	25,580	22,900	24,962	21,598	1,104	451	6,148	17,877
9 U of NC Chapel Hill	24,649	25,852	29,685	26,057	203	0	8,975	15,471
10 Texas A&M University	19,593	17,826	18,540	18,046	11,347	2,828	1,880	3,538
Total, 1st 10 institutions	335,112	326,578	326,465	281,741	93,410	47,399	58,807	135,496
11 U of Illinois Urbana	18,833	16,895	16,141	18,545	8,005	3,722	649	6,457
12 Ohio State University	18,786	21,124	17,826	16,558	4,572	1,758	1,627	10,829
13 Rutgers the State U NJ	17,698	17,074	17,162	20,104	1,581	6,293	3,982	5,842
14 Brandeis University	17,329	13,883	12,928	11,867	343	148	15,960	878
15 U of Pennsylvania	17,289	19,457	23,532	24,485	2,848	3,692	4,522	6,227
16 Michigan State University	15,681	15,998	11,508	10,581	7,962	2,273	1,173	4,273
17 Indiana University	15,629	16,870	12,674	11,807	372	8,361	3,208	3,688
18 Purdue University	15,046	12,278	17,959	14,884	5,746	242	1,979	7,079
19 University of Minnesota	14,113	14,120	12,373	11,597	7,991	1,947	1,541	2,634
20 University of Arizona	13,208	11,927	11,661	9,537	3,948	341	5,929	2,990
Total, 1st 20 institutions	498,724	486,204	480,229	431,706	136,778	76,176	99,377	186,393
21 Princeton University	13,156	13,376	10,855	9,767	2,577	8,405	1,080	1,094
22 Iowa State University	12,943	11,982	11,355	10,616	3,489	308	8,917	229
23 MA Institute of Tech	11,627	16,839	14,408	10,637	3,341	1,168	0	7,118
24 Cornell University	11,066	10,889	11,235	11,350	3,950	10	1,314	5,792
25 Duke University	11,007	9,594	10,849	10,569	1,806	3,601	3,034	2,566
26 U of Missouri Columbia	10,719	10,517	10,308	8,720	7,541	708	1,001	1,469
27 University of Oklahoma	10,061	10,768	12,306	12,614	1,548	1,345	466	6,702
28 Washington State U	9,834	11,271	12,691	12,411	6,655	85	2,743	351
29 U CA San Diego	9,302	4,405	5,066	4,251	796	334	5,770	2,402
30 Georgia State University	8,868	7,488	4,619	4,330	5,174	345	3,082	267
Total, 1st 30 institutions	607,307	593,333	583,921	526,971	173,655	92,485	126,784	214,383
31 University of Florida	8,682	12,468	5,437	4,151	5,241	304	1,089	2,048
32 Arizona State University	8,564	7,684	8,347	8,526	2,176	1,179	270	4,939
33 Carnegie Mellon U	8,416	7,367	6,163	5,498	2,259	3,074	494	2,589
34 Louisiana St U, All Camp	8,223	6,753	7,225	6,537	3,585	461	1,228	2,949
35 U of Iowa	7,851	6,766	6,218	5,177	197	1,701	2,747	3,206
36 University of Connecticut	7,772	9,033	12,157	10,777	2,319	252	1,346	3,855
37 U of South Carolina	7,679	5,925	7,755	8,469	1,541	2,223	2,092	1,823
38 U CA Santa Cruz	7,618	1,313	1,372	3,948	242	71	283	7,022
39 U CA Santa Barbara	7,451	7,429	6,933	5,656	22	69	161	7,199
40 Temple University	7,359	7,683	9,697	8,406	267	501	5,694	897
Total, 1st 40 institutions	686,922	665,754	655,225	594,116	191,504	102,320	142,188	250,910
41 George Washington U	7,303	6,461	6,346	8,201	154	1,936	812	4,401
42 U TX Austin	7,195	5,090	17,198	15,164	809	724	5,160	502
43 University of Chicago	6,949	7,295	2,281	2,088	305	2,260	954	3,430
44 SUNY Albany	6,882	6,118	6,549	6,155	71	1,724	2,850	2,237
45 U of Southern California	6,404	7,859	6,640	6,762	374	928	3,256	1,846
46 Wayne State University	6,373	5,868	4,923	4,422	227	7	1,862	4,277
47 George Mason University	6,312	4,864	6,539	5,484	531	5,275	144	362
48 U MA Boston	6,311	5,916	5,065	4,542	2	963	556	4,790
49 Northern Illinois U	6,146	3,508	4,490	3,696	245	117	14	5,770
50 Florida State University	6,097	5,087	3,697	4,534	31	220	1,321	4,525
Total, 1st 50 institutions	752,894	723,820	718,953	655,164	194,253	116,474	159,117	283,050

See explanatory information and SOURCE at end of table.

**Table B-64. R&D expenditures in the social sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

Page 2 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Eco-nomics	Political science	Soci-ology	Other
51 U of Washington	5,997	11,730	12,947	7,401	190	4,369	603	835
52 Northwestern University	5,993	5,079	4,821	3,974	641	4,442	443	467
53 Columbia University	5,882	6,222	6,512	6,487	465	316	4,766	335
54 New York University	5,798	5,702	5,319	5,362	869	2,659	429	1,841
55 Stanford University	5,715	6,459	5,729	5,299	596	46	468	4,605
56 SUNY Buffalo	5,710	3,558	4,593	5,267	518	386	782	4,024
57 Tufts University	5,697	4,433	3,758	3,597	0	5,002	562	133
58 University of New Mexico	5,446	4,510	7,684	6,692	98	1,028	477	3,843
59 Cleveland State U	5,425e	5,267i	5,270i	5,080	6e	0	285e	5,134e
60 VA Polytech Inst & St U	5,273	5,059	4,177	4,153	923	1,483	21	2,846
Total, 1st 60 institutions	809,830	781,839	779,763	708,476	198,559	136,205	167,953	307,113
61 Oklahoma State University ...	5,205	4,731	4,700	4,662	3,566	132	982	525
62 University of IL Chicago	5,080	7,942	7,528	6,343	460	60	1,224	3,336
63 U WI Milwaukee	5,075	5,606	5,746	5,383	355	343	300	4,077
64 U of Nebraska Lincoln	5,041i	4,966	3,513	2,387	3,244i	267i	867i	663i
65 Portland State University	4,996	4,130	4,455	3,869	55	26	45	4,870
66 Brown University	4,894	4,386	4,367	2,386	1,423	542	531	2,398
67 NC State University	4,866	6,221	4,931	3,237	2,868	91	1,003	904
68 University of Delaware	4,749	3,555	2,922	3,229	395	49	3,182	1,123
69 U of Tennessee System	4,720	4,908	4,769	4,862	3,054	649	678	339
70 Case Western Reserve U	4,708	4,791	4,356	4,474	872	1	548	3,287
Total, 1st 70 institutions	859,164	833,075	827,050	749,308	214,851	138,365	177,313	328,635
71 Georgetown University	4,663	3,220	2,791	2,738	140	1,819	1,958	746
72 US Naval Postgrad School ...	4,647i	4,409	5,730i	5,174	1,427i	902i	2,070i	248i
73 U of Central Florida	4,641	275	48	852	639	184	1,444	2,374
74 Texas Tech University	4,621	3,433	3,056	2,845	803	565	2,771	482
75 Indiana State University	4,537	334	64	76	0	0	4,537	0
76 U CA Irvine	4,457	4,063	4,236	4,993	17	1,552	66	2,822
77 U of New Hampshire	4,381	2,867	3,611	2,796	0	0	2,049	2,332
78 Vanderbilt University	4,379	3,648	3,137	4,204	26	4,266	70	17
79 University of Pittsburgh	4,142	5,439	4,699	6,614	478	337	326	3,001
80 The University of Memphis ...	4,138	3,708	2,858	1,865	1,881	731	1,437	89
Total, 1st 80 institutions	903,770	864,471	857,280	781,465	220,262	148,721	194,041	340,746
81 Clemson University	4,014	6,345	6,886	5,956	1,002	2,117	76	819
82 Univ of Hawaii Manoa	4,002	3,332	2,612	2,929	1,003	2	249	2,748
83 University of Miami	3,934	4,469	5,326	8,053	0	16	1,365	2,553
84 Teachers Col, Columbia U ...	3,910	122	125	85i	1,220	0	0	2,690
85 U Arkansas Main	3,829	3,562	3,151	2,945	541	211	724	2,353
86 University of Kansas	3,776	4,843	2,519	2,970	1,586	136	1,500	554
87 San Diego St University	3,736	1,769	2,467	1,537	410	195	2,440	691
88 Johns Hopkins U	3,688	14,845	11,961	10,854	741i	182i	1,265i	1,500i
89 U of Alaska Fairbanks	3,668i	3,528i	3,430i	3,084i	213i	0i	2,073i	1,382i
90 Mississippi State U	3,506	4,771	4,448	2,511	24	429	206	2,847
Total, 1st 90 institutions	941,833	912,057	900,205	822,389	227,002	152,009	203,939	358,883

See explanatory information and SOURCE at end of table.

**Table B-64. R&D expenditures in the social sciences at universities
and colleges: fiscal years 1995-1998 and by subfield for 1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Eco-nomics	Political science	Soci-ology	Other
91 University of Colorado	3,375	4,215	5,993	4,766	457	298	2,229	391
92 University of Kentucky	3,371	2,323	2,114	2,025	652	114	1,993	612
93 Western Michigan U	3,345	2,677	3,019	2,591	4	924	527	1,890
94 Utah State University	3,315	4,163	3,214	2,744	832	108	427	1,948
95 New School University	3,287	4,454	4,190 <i>i</i>	4,020 <i>i</i>	755	835	644	1,053
96 U CA Davis	3,276	1,947	2,152	2,414	70	1,717	579	910
97 SUNY Binghamton	3,152	3,422	2,581	2,151	191	840	290	1,831
98 Desert Research Institute	3,100	2,800	3,300	3,199	0	0	0	3,100
99 Kansas State University	3,006	2,638	2,195	2,250	1,649	0	281	1,076
100 U of Missouri St Louis	2,911	2,985	1,985	2,153	213	1,980	137	581
Total, 1st 100 institutions	973,971	943,681	930,948	850,702	231,825	158,825	211,046	372,275
Total, all other sampled insts	147,053	156,866	158,764	162,815	29,036	19,151	38,240	60,626

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-65. Federally financed R&D expenditures in the social sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 1 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Economics	Political science	Sociology	Other
Total, all institutions	418,339	405,208	421,236	386,461	92,072	53,000	118,249	155,018
1 U MD College Park	26,692	13,351	9,265	6,774	4,442	840	1,108	20,302
2 University of Michigan	26,179	28,063	25,039	16,637	11,254	3,371	8,274	3,280
3 Harvard University	21,225	24,151	25,660	24,063	14,461	6,400	63	301
4 U of NC Chapel Hill	17,005	18,120	23,883	20,618	26	0	7,368	9,611
5 U WI Madison	12,377	12,164	15,356	15,037	4,956	88	3,229	4,104
6 Pennsylvania State U	11,806	11,288	9,831	7,741	2,523	121	4,476	4,686
7 Ohio State University	9,265	10,783	10,311	12,215	1,539	1,037	396	6,293
8 Brandeis University	7,475	5,842	5,671	4,278	38	0	7,437	0
9 Michigan State University	7,457	7,364	6,132	4,971	4,673	515	363	1,906
10 Duke University	7,399	6,371	7,714	8,296	1,110	1,987	2,604	1,698
Total, 1st 10 institutions	146,880	137,497	138,862	120,630	45,022	14,359	35,318	52,181
11 Iowa State University	6,961	6,483	5,744	4,922	605	18	6,185	153
12 U of Pennsylvania	5,971	5,817	10,068	10,992	1,086	57	2,420	2,408
13 MA Institute of Tech	5,922	5,268	2,941	3,257	1,416	847	0	3,659
14 Carnegie Mellon U	5,698	3,862	3,113	2,389	1,826	2,063	155	1,654
15 U CA Santa Cruz	5,665	574	664	2,716	133	1	79	5,452
16 Rutgers the State U NJ	5,011	5,516	6,405	7,767	201	0	2,130	2,680
17 University of Arizona	4,955	4,616	4,654	3,284	778	230	2,145	1,802
18 Texas A&M University	4,833	4,509	4,602	4,428	1,790	1,050	1,581	412
19 U CA San Diego	4,723	1,352	1,547	1,042	579	54	3,412	678
20 Indiana University	4,710	3,729	3,004	3,782	36	1,951	2,182	541
Total, 1st 20 institutions	201,329	179,223	181,604	165,209	53,472	20,630	55,607	71,620
21 Columbia University	4,648	4,437	4,329	4,454	216	87	4,129	216
22 US Naval Postgrad School	4,564i	4,333	5,660i	5,144	1,427i	840i	2,049i	248i
23 U CA Berkeley	4,141	4,321	4,320	4,231	1,366	920	1,205	650
24 George Mason University	3,852	3,128	3,909	2,789	0	3,571	46	235
25 U of Missouri Columbia	3,718	4,216	3,566	2,954	2,923	31	378	386
26 University of Oklahoma	3,571	721	3,702	4,958	129	59	170	3,213
27 Portland State University	3,558	2,716	2,592	2,000	0	0	11	3,547
28 University of Miami	3,511	3,721	5,184	8,001	0	13	1,328	2,170
29 SUNY Albany	3,502	3,453	3,348	2,683	48	397	1,440	1,617
30 U CA Santa Barbara	3,483	4,421	4,356	3,437	0	0	4	3,479
Total, 1st 30 institutions	239,877	214,690	222,570	205,860	59,581	26,548	66,367	87,381
31 Vanderbilt University	3,247	2,618	2,046	2,642	11	3,209	27	0
32 Washington State U	3,153	4,318	5,283	5,158	2,444	1	627	81
33 U of Illinois Urbana	3,133	3,875	4,281	5,807	1,080	513	198	1,342
34 U of Southern California	3,042	3,316	3,200	3,233	290	0	1,988	764
35 University of Delaware	2,890	2,259	2,040	2,184	177	1	2,411	301
36 Cornell University	2,849	2,800	2,793	2,271	1,263	9	438	1,139
37 U CA Los Angeles	2,784	3,666	6,476	3,956	259	160	1,020	1,345
38 Georgia State University	2,777	847	453	260	2,620	0	157	0
39 Northwestern University	2,699	2,095	2,260	1,808	213	2,169	268	49
40 Purdue University	2,647	2,444	2,733	3,075	1,869	52	365	361
Total, 1st 40 institutions	269,098	242,928	254,135	236,254	69,807	32,662	73,866	92,763
41 University of Pittsburgh	2,637	3,087	2,154	1,248	477	272	282	1,606
42 Desert Research Institute	2,600	2,500	3,100	3,010	0	0	0	2,600
43 Princeton University	2,446	2,403	2,222	2,386	427	1,851	144	24
44 University of Colorado	2,403	2,464	3,578	2,665	237	259	1,617	290
45 U of South Carolina	2,398	2,121	4,264	4,758	483	180	640	1,095
46 U of Iowa	2,299	1,949	1,092	1,205	124	273	1,356	546
47 University of Chicago	2,296	2,623	310	332	95	1,430	110	661
48 Florida International U	2,229	2,164	2,101	2,040	24	1,210	203	792
49 SUNY Grad Sch & U Ctr	2,191	1,390	800i	705i	0	211	382	1,598
50 Florida State University	2,143	1,340	592	828	12	11	660	1,460
Total, 1st 50 institutions	292,740	264,969	274,348	255,431	71,686	38,359	79,260	103,435

See explanatory information and SOURCE at end of table.

Table B-65. Federally financed R&D expenditures in the social sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 2 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Eco-nomics	Political science	Soci-ology	Other
51 University of Georgia	2,123	1,838	2,319	1,677	675	31	0	1,417
52 University of Minnesota	2,117	2,417	1,849	1,846	1,119	376	472	150
53 Temple University	2,114	3,415	4,855	3,466	0	25	2,004	85
54 Washington University	2,092	1,874	1,352	1,081	37	208	1,827	20
55 U TX Austin	2,088	2,108	7,246	5,035	137	25	1,668	258
56 University of Denver	2,012	1,240	480	707	0	27	119	1,866
57 Syracuse University	1,994	1,626i	1,254	1,450	256	255	526	957
58 Texas Tech University	1,972	1,464	1,264	1,116	111	74	1,715	72
59 Johns Hopkins U	1,924	9,272	8,301	4,627	417i	181i	516i	810i
60 U WI Milwaukee	1,905	2,091	2,562	2,349	167	115	18	1,605
Total, 1st 60 institutions	313,081	292,314	305,830	278,785	74,605	39,676	88,125	110,675
61 University of Connecticut	1,903	1,510	1,598	1,500	482	131	897	393
62 University of New Mexico	1,890	1,532	2,221	2,383	77	670	284	859
63 Mississippi State U	1,858	1,967	1,781	1,178	0	9	2	1,847
64 Georgetown University	1,837	1,222	1,383	1,861	37	139	1,641	20
65 U of New Hampshire	1,777	949	1,517	1,217	0	0	1,465	312
66 New York University	1,738	1,700	806	1,362	525	422	384	407
67 University of Kentucky	1,696	1,449	1,190	1,330	0	85	1,321	290
68 Stevens Inst of Tech	1,694	161	1,194	517	0	0	0	1,694
69 Northern Arizona U	1,677	1,657i	1,406	598	0	0	225	1,452
70 University of Florida	1,674	2,350	1,131	1,296	596	124	382	572
Total, 1st 70 institutions	330,825	306,811	320,057	292,027	76,322	41,256	94,726	118,521
71 U CA Irvine	1,645	2,079	2,247	3,186	0	589	9	1,047
72 Northern Illinois U	1,633	784	982	1,022	158	0	9	1,466
73 George Washington U	1,600	2,234	2,918	2,460	21	986	283	310
74 Wayne State University	1,589	1,731	765	414	186	1	1,274	128
75 U of Tennessee System	1,538	1,620	1,701	1,993	878	230	386	44
76 Brigham Young University	1,537	719i	810i	660i	381	0	929	227
77 Utah State University	1,523	1,623	1,627	1,536	78	35	150	1,260
78 Western Illinois U	1,523	1,337	1,345	392	467	353	641	62
79 Oklahoma State University	1,508	581	625	523	411	127	750	220
80 U of Central Florida	1,499	44	2	108	0	57	1,140	302
Total, 1st 80 institutions	346,420	319,563	333,079	304,321	78,902	43,634	100,297	123,587
81 U of Nebraska Lincoln	1,497i	1,475	645	628	660i	206i	561i	70i
82 University of Cincinnati	1,440	655	351	367	0	174	43	1,223
83 Montana St U Bozeman	1,401	578	746	629	1,096	0	11	294
84 Arizona State University	1,351	1,560	2,183	2,343	72	198	5	1,076
85 University of IL Chicago	1,350	3,409	2,895	1,795	263	13	455	619
86 Gallaudet University	1,281	563i	603i	644i	0	0	1,219	62
87 U TX San Antonio	1,270	3,037i	1,081	724i	0	0	0	1,270
88 Clemson University	1,255	2,121	2,282	2,064	313	662	24	256
89 Teachers Col, Columbia U	1,213	94	0	0i	10	0	0	1,203
90 Northeast Louisiana U	1,190	1,671	1,558	1,562	649	0	541	0
Total, 1st 90 institutions	359,668	334,726	345,423	315,077	81,965	44,887	103,156	129,660

See explanatory information and SOURCE at end of table.

Table B-65. Federally financed R&D expenditures in the social sciences at universities and colleges: fiscal years 1995-1998 and by subfield for 1998

[Dollars in thousands]

Page 3 of 3

Institution and ranking	1998	1997	1996	1995	1998, by subfield			
					Eco-nomics	Political science	Soci-ology	Other
91 Case Western Reserve U	1,175	1,740	1,394	1,291	54	0	490	631
92 Louisiana St U, All Camp	1,148	975	1,481	1,202	179	0	161	808
93 Georgia Institute of Tech	1,137	1,156	3,104	2,506	664	198	198	77
94 Tuskegee University	1,110	1,236	82	0	0	0	0	1,110
95 CA St U Chico	1,096	723	0	80	0	0	0	1,096
96 U MA Boston	1,093	897	805	697	1	117	84	891
97 Tufts University	1,085	709	619	874	0	738	347	0
98 Univ of Hawaii Manoa	1,081	1,169	536	384	101	0	54	926
99 VA Polytech Inst & St U	1,050	738	1,269	1,311	16	377	0	657
100 SUNY Stony Brook	1,041	1,816	1,624	2,335	148	195	93	605
Total, 1st 100 institutions	370,684	345,885	356,337	325,757	83,128	46,512	104,583	136,461
Total, all other sampled insts	47,655	59,323	64,899	60,704	8,944	6,488	13,666	18,557

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-66. Current fund expenditures for research equipment at universities and colleges,
by science and engineering field and source of funds: fiscal years 1991, 1997, and 1998**

[Dollars in thousands]

Field	Total			Federal			Non-Federal		
	1998	1997	1991	1998	1997	1991	1998	1997	1991
Total	1,284,483	1,277,248	1,024,579	768,696	749,370	610,619	515,787	527,878	413,960
Engineering, total	298,044	301,399	234,002	178,539	169,073	135,557	119,505	132,326	98,445
Aeronautical and astronautical	20,696	20,185	17,404	14,601	14,411	14,589	6,095	5,774	2,815
Bioengineering/Bio- medical ¹	6,183	3,682	--	2,615	1,954	--	3,568	1,728	--
Chemical	28,163	23,414	19,965	15,562	12,911	9,787	12,601	10,503	10,178
Civil	21,059	27,537	17,809	8,994	12,057	8,324	12,065	15,480	9,485
Electrical	81,324	83,303	51,976	54,121	50,905	30,227	27,203	32,398	21,749
Mechanical	50,929	45,757	34,231	32,792	28,756	17,742	18,137	17,001	16,489
Metallurgical and materials	30,483	36,126	33,205	18,462	18,535	19,835	12,021	17,591	13,370
Other, n.e.c.	59,207	61,395	59,412	31,392	29,544	35,053	27,815	31,851	24,359
All sciences, total	986,439	975,849	790,577	590,157	580,297	475,062	396,282	395,552	315,515
Physical sciences	248,057	239,700	189,587	183,222	169,877	139,331	64,835	69,823	50,256
Astronomy	24,080	26,008	14,332	19,538	16,828	8,834	4,542	9,180	5,498
Chemistry	89,971	88,748	69,257	60,578	58,336	47,194	29,393	30,412	22,063
Physics	118,518	106,137	88,045	90,366	80,739	69,517	28,152	25,398	18,528
Other, n.e.c.	15,488	18,807	17,953	12,740	13,974	13,786	2,748	4,833	4,167
Environmental sciences	99,156	90,551	70,102	67,299	66,707	43,031	31,857	23,844	27,071
Atmospheric	14,535	14,200	10,295	11,841	10,963	7,808	2,694	3,237	2,487
Earth sciences	35,636	33,444	28,864	23,513	23,403	15,344	12,123	10,041	13,520
Oceanography	32,209	30,326	18,979	22,933	23,253	13,615	9,276	7,073	5,364
Other, n.e.c.	16,776	12,581	11,964	9,012	9,088	6,264	7,764	3,493	5,700
Mathematical sciences	14,316	15,318	10,648	10,173	9,159	6,674	4,143	6,159	3,974
Computer sciences	65,461	71,180	58,522	46,579	49,098	43,633	18,882	22,082	14,889
Life sciences	490,473	473,974	411,403	249,613	237,615	220,456	240,860	236,359	190,947
Agricultural sciences	75,846	69,403	53,074	24,065	21,689	16,249	51,781	47,714	36,825
Biological sciences	187,730	192,807	167,531	106,336	107,540	101,235	81,394	85,267	66,296
Medical sciences	211,176	196,497	168,968	112,227	100,876	91,871	98,949	95,621	77,097
Other, n.e.c.	15,721	15,267	21,830	6,985	7,510	11,101	8,736	7,757	10,729
Psychology	12,929	12,831	11,132	8,196	8,157	7,177	4,733	4,674	3,955
Social sciences	22,198	24,005	13,997	8,815	8,938	5,120	13,383	15,067	8,877
Economics	3,793	5,283	4,524	1,307	1,646	1,531	2,486	3,637	2,993
Political science	3,425	3,276	1,987	1,595	1,196	636	1,830	2,080	1,351
Sociology	3,850	4,440	2,640	1,835	1,892	1,389	2,015	2,548	1,251
Other, n.e.c.	11,130	11,006	4,846	4,078	4,204	1,564	7,052	6,802	3,282
Other sciences, n.e.c.	33,849	48,290	25,186	16,260	30,746	9,640	17,589	17,544	15,546

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-67. Current fund expenditures for research equipment at doctorate-granting institutions,
by science and engineering field and source of funds: fiscal years 1991, 1997, and 1998**

[Dollars in thousands]

Field	Total			Federal			Non-Federal		
	1998	1997	1991	1998	1997	1991	1998	1997	1991
Total	1,249,914	1,241,721	1,004,382	745,611	724,312	598,728	504,303	517,409	405,654
Engineering, total	290,441	293,124	231,201	173,225	163,471	133,967	117,216	129,653	97,234
Aeronautical and astronautical	19,190	18,869	17,217	13,219	13,116	14,433	5,971	5,753	2,784
Bioengineering/Bio- medical ¹	6,016	3,532	--	2,452	1,804	--	3,564	1,728	--
Chemical	27,711	22,793	19,894	15,133	12,384	9,750	12,578	10,409	10,144
Civil	20,834	26,814	17,289	8,900	11,574	8,079	11,934	15,240	9,210
Electrical	80,123	81,995	51,371	53,051	49,895	29,894	27,072	32,100	21,477
Mechanical	48,931	43,728	33,471	31,215	27,082	17,211	17,716	16,646	16,260
Metallurgical and materials	30,235	36,072	33,159	18,243	18,525	19,791	11,992	17,547	13,368
Other, n.e.c.	57,401	59,321	58,800	31,012	29,091	34,809	26,389	30,230	23,991
All sciences, total	959,473	948,597	773,181	572,386	560,841	464,761	387,087	387,756	308,420
Physical sciences	240,028	231,678	183,330	178,078	164,430	135,614	61,950	67,248	47,716
Astronomy	23,980	25,958	14,197	19,461	16,797	8,760	4,519	9,161	5,437
Chemistry	85,020	83,096	65,098	57,596	54,577	44,679	27,424	28,519	20,419
Physics	115,656	103,914	86,160	88,362	79,122	68,425	27,294	24,792	17,735
Other, n.e.c.	15,372	18,710	17,875	12,659	13,934	13,750	2,713	4,776	4,125
Environmental sciences	95,785	87,642	68,414	65,526	64,989	42,026	30,259	22,653	26,388
Atmospheric	14,429	14,091	10,166	11,835	10,963	7,746	2,594	3,128	2,420
Earth sciences	33,660	32,246	28,162	22,813	23,027	15,060	10,847	9,219	13,102
Oceanography	31,036	29,052	18,467	21,932	22,166	13,166	9,104	6,886	5,301
Other, n.e.c.	16,660	12,253	11,619	8,946	8,833	6,054	7,714	3,420	5,565
Mathematical sciences	13,451	14,178	9,627	9,532	8,415	6,196	3,919	5,763	3,431
Computer sciences	64,044	68,815	57,285	45,823	46,979	42,883	18,221	21,836	14,402
Life sciences	478,949	464,273	406,015	241,246	230,389	216,970	237,703	233,884	189,045
Agricultural sciences	72,573	66,810	51,421	21,974	19,423	14,827	50,599	47,387	36,594
Biological sciences	180,060	186,192	164,118	100,476	102,962	99,384	79,584	83,230	64,734
Medical sciences	210,631	196,056	168,711	111,840	100,541	91,696	98,791	95,515	77,015
Other, n.e.c.	15,685	15,215	21,765	6,956	7,463	11,063	8,729	7,752	10,702
Psychology	12,463	12,397	10,431	7,880	7,872	6,699	4,583	4,525	3,732
Social sciences	21,508	23,242	13,364	8,354	8,371	4,787	13,154	14,871	8,577
Economics	3,681	5,010	4,239	1,207	1,412	1,348	2,474	3,598	2,891
Political science	3,354	3,167	1,914	1,580	1,128	605	1,774	2,039	1,309
Sociology	3,749	4,331	2,472	1,764	1,821	1,294	1,985	2,510	1,178
Other, n.e.c.	10,724	10,734	4,739	3,803	4,010	1,540	6,921	6,724	3,199
Other sciences, n.e.c.	33,245	46,372	24,715	15,947	29,396	9,586	17,298	16,976	15,129

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-68. Current fund expenditures for research equipment at universities and colleges,
by science and engineering field, source of funds, and type of control: fiscal year 1998**

[Dollars in thousands]

Field	Total			Federal			Non-Federal		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
Total	1,284,483	846,355	438,128	768,696	458,711	309,985	515,787	387,644	128,143
Engineering, total	298,044	200,049	97,995	178,539	108,333	70,206	119,505	91,716	27,789
Aeronautical and astronautical	20,696	13,890	6,806	14,601	9,234	5,367	6,095	4,656	1,439
Bioengineering/Bio- medical ¹	6,183	3,907	2,276	2,615	1,552	1,063	3,568	2,355	1,213
Chemical	28,163	20,915	7,248	15,562	11,463	4,099	12,601	9,452	3,149
Civil	21,059	17,241	3,818	8,994	6,461	2,533	12,065	10,780	1,285
Electrical	81,324	55,334	25,990	54,121	35,702	18,419	27,203	19,632	7,571
Mechanical	50,929	29,493	21,436	32,792	16,319	16,473	18,137	13,174	4,963
Metallurgical and materials	30,483	21,972	8,511	18,462	12,520	5,942	12,021	9,452	2,569
Other, n.e.c.	59,207	37,297	21,910	31,392	15,082	16,310	27,815	22,215	5,600
All sciences, total	986,439	646,306	340,133	590,157	350,378	239,779	396,282	295,928	100,354
Physical sciences	248,057	142,465	105,592	183,222	93,621	89,601	64,835	48,844	15,991
Astronomy	24,080	11,296	12,784	19,538	7,546	11,992	4,542	3,750	792
Chemistry	89,971	58,252	31,719	60,578	34,902	25,676	29,393	23,350	6,043
Physics	118,518	64,810	53,708	90,366	44,638	45,728	28,152	20,172	7,980
Other, n.e.c.	15,488	8,107	7,381	12,740	6,535	6,205	2,748	1,572	1,176
Environmental sciences	99,156	70,398	28,758	67,299	45,333	21,966	31,857	25,065	6,792
Atmospheric	14,535	11,786	2,749	11,841	9,241	2,600	2,694	2,545	149
Earth sciences	35,636	19,834	15,802	23,513	11,147	12,366	12,123	8,687	3,436
Oceanography	32,209	29,488	2,721	22,933	20,672	2,261	9,276	8,816	460
Other, n.e.c.	16,776	9,290	7,486	9,012	4,273	4,739	7,764	5,017	2,747
Mathematical sciences	14,316	8,863	5,453	10,173	6,088	4,085	4,143	2,775	1,368
Computer sciences	65,461	37,862	27,599	46,579	26,610	19,969	18,882	11,252	7,630
Life sciences	490,473	338,407	152,066	249,613	154,809	94,804	240,860	183,598	57,262
Agricultural sciences	75,846	72,761	3,085	24,065	22,979	1,086	51,781	49,782	1,999
Biological sciences	187,730	126,117	61,613	106,336	63,133	43,203	81,394	62,984	18,410
Medical sciences	211,176	130,679	80,497	112,227	65,632	46,595	98,949	65,047	33,902
Other, n.e.c.	15,721	8,850	6,871	6,985	3,065	3,920	8,736	5,785	2,951
Psychology	12,929	8,968	3,961	8,196	5,151	3,045	4,733	3,817	916
Social sciences	22,198	17,505	4,693	8,815	6,567	2,248	13,383	10,938	2,445
Economics	3,793	2,986	807	1,307	838	469	2,486	2,148	338
Political science	3,425	2,586	839	1,595	1,223	372	1,830	1,363	467
Sociology	3,850	3,023	827	1,835	1,465	370	2,015	1,558	457
Other, n.e.c.	11,130	8,910	2,220	4,078	3,041	1,037	7,052	5,869	1,183
Other sciences, n.e.c.	33,849	21,838	12,011	16,260	12,199	4,061	17,589	9,639	7,950

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-69. Total and federally financed current fund expenditures for research equipment
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 1 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	1,284,483	1,277,248	1,203,507	1,229,752	768,696	749,370	716,631	730,041
1 Johns Hopkins U	37,117	35,197	30,463	28,342 i	20,195	17,502	17,191	25,643 i
2 MA Institute of Tech	31,276	23,978	37,523	43,841	22,214	14,693	30,844	37,868
3 California Inst of Tech	29,467	22,300	21,830	13,719	28,136	21,115	20,805	12,712
4 U of Illinois Urbana	26,324	33,828	27,027	19,457	20,143	23,205	17,251	11,752
5 Stanford University	26,271	26,143	25,382	21,279	23,290	24,120	22,057	19,009
6 Cornell University	25,050	30,323	24,765	37,503	14,371	17,529	16,994	20,597
7 U WI Madison	23,212	31,659	31,180	32,102	12,914	15,850	15,814	17,960
8 U of Washington	22,480	26,498	24,182	30,164	14,939	21,824	19,946	20,386
9 Georgia Institute of Tech	22,388	27,228	23,246	14,900	9,815	12,756	11,967	7,376
10 NC State University	19,152	12,950	13,067	13,092	7,089	5,837	6,393	6,132
Total, 1st 10 institutions	262,737	270,104	258,665	254,399	173,106	174,431	179,262	179,435
11 Texas A&M University	18,513	16,360	15,709	16,624	6,932	7,213	6,527	7,053
12 University of Georgia	17,187	25,744	14,851	15,755	3,132	3,724	3,518	2,939
13 Columbia University	16,866	12,575	10,145	9,892	12,618	10,259	8,386	8,472
14 Ohio State University	15,930	11,339	10,263	9,357	3,955	3,573	5,424	4,746
15 Pennsylvania State U	15,829	22,951	21,092	22,520	5,803	11,706	12,003	13,999
16 University of Rochester	15,396	11,685	10,396	11,487	13,363	9,602	8,408	9,300
17 University of Arizona	14,447	13,297	14,184	14,687	10,197	8,301	8,519	8,182
18 University of Michigan	14,354	15,264	14,712	18,981	9,767	8,161	8,942	10,164
19 Purdue University	14,171	13,767	12,727	13,958	8,321	7,650	6,621	8,716
20 U CA San Diego	13,923	10,411	8,133	8,250	8,114	5,323	5,888	5,733
Total, 1st 20 institutions	419,353	423,497	390,877	395,910	255,308	249,943	253,498	258,739
21 University of Minnesota	13,827	12,938	14,206	13,843	8,784	8,411	9,439	8,680
22 U CA Davis	13,778	6,237	5,417	6,472	7,338	2,995	2,667	3,470
23 Duke University	13,602	10,124	9,780	7,856	8,307	6,763	6,266	5,033
24 Washington University	13,365	12,551	11,546	11,523	9,525	10,275	8,774	7,158
25 Louisiana St U, All Camp	13,298	15,274	16,392	17,418	2,693	2,841	3,463	4,195
26 U MD College Park	13,045	17,088	15,043	16,842	9,078	7,825	6,345	6,917
27 University of Chicago	13,037	12,832	10,869	9,170	11,015	11,078	9,446	6,889
28 University of New Mexico	13,019	10,747	9,659	26,687	10,548	7,724	7,139	24,445
29 University of Florida	12,756	10,516	11,576	10,472	5,222	3,343	3,588	3,021
30 U CA Los Angeles	12,731	7,702	7,570	9,175	7,114	4,983	4,765	5,400
Total, 1st 30 institutions	551,811	539,506	502,935	525,368	334,932	316,181	315,390	333,947
31 U of Alabama Birmingham	12,156	8,988	6,456	5,654	9,581	6,871	3,419	3,264
32 Harvard University	12,057	9,768	11,139	10,130	10,186	7,595	8,437	7,990
33 U TX Austin	11,448	14,952	14,561	14,989	8,423	9,027	9,254	9,484
34 University of Colorado	10,747	11,433	11,427	10,469	9,186	7,153	8,025	7,354
35 U of Pennsylvania	10,699	9,175	10,007	10,972	8,820	6,995	7,177	7,950
36 US Naval Postgrad School ...	10,418 i	10,418	8,759 i	7,101	10,316 i	10,316	8,521 i	6,989
37 Carnegie Mellon U	10,241	15,641	13,969	9,650	6,926	10,643	10,477	6,807
38 Northwestern University	9,850	14,286	11,877	11,877	5,074	6,558	6,230	6,230
39 Michigan State University	9,744	6,941	10,066	9,154	5,357	3,352	4,517	3,819
40 U CA San Francisco	9,740	8,903	7,496	7,149	5,575	5,775	4,311	4,158
Total, 1st 40 institutions	658,911	650,011	608,692	622,513	414,376	390,466	385,758	397,992
41 U of Southern California	9,667	14,074	11,682	10,228	6,061	10,749	9,260	9,025
42 U of Iowa	9,568	8,490	9,539	7,527	4,714	4,357	3,787	3,544
43 Rutgers the State U NJ	9,248	8,079	8,245	6,734	3,267	3,431	4,232	3,914
44 Princeton University	8,963	6,973	5,710	7,154	7,465	6,013	4,995	6,130
45 U CA Berkeley	8,950	8,837	7,277	7,509	5,780	5,415	4,196	4,769
46 Univ of Hawaii Manoa	8,733	6,151	3,676	4,170	5,858	4,262	1,901	3,211
47 Case Western Reserve U	8,625	9,793	7,034	7,933	4,325	4,335	4,360	1,485
48 University of Miami	8,574	8,606	6,866	9,272	6,573	7,007	5,366	7,073
49 Indiana University	8,486	9,257	10,001	7,818	3,217	5,625	5,264	3,618
50 Colorado State University	8,405	7,570	7,302	7,120	4,634	5,260	3,115	4,157
Total, 1st 50 institutions	748,130	737,841	686,024	697,978	466,270	446,920	432,234	444,918

See explanatory information and SOURCE at end of table.

**Table B-69. Total and federally financed current fund expenditures for research equipment
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

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Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
51 U of NC Chapel Hill	8,341	8,543	9,901	9,325	3,966	4,497	4,509	4,233
52 University of IL Chicago	8,334	10,027	5,047	5,438	3,750	4,749	2,496	2,000
53 Yale University	7,817	8,716	7,381	10,299	6,941	7,379	6,268	8,592
54 Clemson University	7,597	3,888	4,137	5,181	2,760	1,149	1,484	2,040
55 Florida International U	7,469	7,253	7,041	6,838	4,974	4,829	4,689	4,556
56 U of South Florida	7,226	6,649	5,913	5,460	3,682	2,701	2,238	2,046
57 U of Tennessee System	7,159	8,767	5,980	6,378	3,108	3,703	2,623	2,586
58 SUNY Stony Brook	7,106	5,837	5,199	6,023	4,946	2,888	4,226	3,842
59 Florida State University	7,012	10,590	9,315	14,066	5,272	6,490	5,146	8,014
60 University of Virginia	6,946	7,054	5,506	7,866	5,113	5,280	4,909	5,820
Total, 1st 60 institutions	823,137	815,165	751,444	774,852	510,782	490,585	470,822	488,647
61 University of Utah	6,900	11,399	9,622	6,344	5,856	9,484	8,073	4,896
62 Kansas State University	6,819	6,277	4,720	6,019	3,674	2,801	2,384	3,478
63 VA Polytech Inst & St U	6,724	4,596	2,653	3,350	2,688	2,046	1,624	1,806
64 U MA Amherst	6,704	6,149	5,366	4,218	4,154	4,031	3,533	2,506
65 U TX SW Med Ctr Dallas	6,659	5,631	5,809	6,162	2,825	2,999	3,144	2,929
66 U of Nebraska Lincoln	6,547e	6,547	6,004	7,301	2,339e	2,339	1,976	2,557
67 University of Delaware	6,529	5,370	4,133	4,319	2,346	2,814	1,753	2,253
68 Clark Atlanta University	6,480	5,483i	4,487i	3,491i	2,873	5,453i	4,463i	3,472i
69 University of Connecticut	6,331	5,203	6,283	5,346	1,191	1,391	2,674	2,311
70 University of Oklahoma	6,222	5,660	6,482	5,959	2,748	2,461	2,837	2,211
Total, 1st 70 institutions	889,052	877,480	807,003	827,361	541,476	526,404	503,283	517,066
71 Iowa State University	6,201	5,434	5,554	7,333	1,977	1,912	1,473	2,547
72 University of Kentucky	6,047	6,322	4,981	4,647	3,819	2,689	2,045	1,941
73 New York University	6,045	3,896	5,879	8,787	4,109	3,070	1,758	2,716
74 University of Cincinnati	6,001	3,284	4,512	3,097	1,724	1,286	1,718	1,411
75 Mississippi State U	5,833	6,507	4,790	2,883	3,559	2,903	2,612	1,579
76 Arizona State University	5,791	6,137	6,494	8,584	2,893	2,192	3,160	1,877
77 Emory University	5,744	5,545	5,585	5,577	2,950	2,804	2,330	2,754
78 U CA Irvine	5,716	4,011	5,552	3,253	2,900	2,442	2,861	2,028
79 Wayne State University	5,706	5,759	6,094	6,256	1,628	1,379	1,371	1,151
80 U of Missouri Columbia	5,590	6,009	5,141	5,029	1,665	2,103	1,861	941
Total, 1st 80 institutions	947,726	930,384	861,585	882,807	568,700	549,184	524,472	536,011
81 Boston University	5,581	5,289	3,959	3,615	4,835	4,849	3,468	3,110
82 New Mexico State Univ	5,566	4,246	3,977	4,243	5,001	3,632	3,262	3,501
83 University of Notre Dame	5,394	4,084	3,934	3,822	2,932	2,365	2,593	2,543
84 University of Kansas	5,313	4,185	3,732	3,386	2,491	1,987	2,025	2,059
85 U CA Santa Barbara	5,092	4,878	5,227	3,044	4,134	3,615	4,309	2,500
86 Vanderbilt University	5,008	3,206	3,896	4,921	3,932	2,389	3,066	3,668
87 University of Houston	4,897	4,795	5,670	4,394	2,417	1,159	1,865	2,156
88 Oklahoma State University	4,718	3,925	3,460	3,791	1,316	1,782	886	910
89 Oregon State University	4,520	4,432	4,639	5,097	3,991	3,813	3,824	4,184
90 Baylor Col of Medicine	4,465	7,186	4,688	6,317	2,442	3,612	2,251	2,292
Total, 1st 90 institutions	998,280	976,610	904,767	925,437	602,191	578,387	552,021	562,934

See explanatory information and SOURCE at end of table.

**Table B-69. Total and federally financed current fund expenditures for research equipment
at universities and colleges: fiscal years 1995-1998**

[Dollars in thousands]

Page 3 of 3

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
91 Texas Tech University	4,462	2,689	2,409	2,021	1,939	1,167	598	432
92 University of Pittsburgh	4,415	5,841	4,741	5,920	3,453	4,946	3,449	4,574
93 Yeshiva University	4,350	5,062	3,421	2,915e	3,530	3,439	2,776	2,623e
94 U Arkansas Main	4,112	3,228	2,920	3,665	1,548	1,287	1,249	1,410
95 Georgetown University	4,067	3,401	7,872	7,208	3,783	2,979	5,664	3,774
96 The Rockefeller Univ	3,965	5,860	4,259	4,503	1,381	1,070	983	2,071
97 U of New Hampshire	3,784	2,593	2,756	2,117	2,563	1,564	1,237	943
98 Brown University	3,772	2,380	3,541	2,800	2,675	2,253	2,586	1,599
99 U of South Carolina	3,659	3,135	2,034	6,766	3,045	2,068	1,297	4,631
100 Michigan Tech University	3,502	3,308	2,389	1,733	1,884	1,817	982	911
Total, 1st 100 institutions	1,038,368	1,014,107	941,109	965,085	627,992	600,977	572,842	585,902
Total, all other sampled insts	246,115	263,141	262,398	264,667	140,704	148,393	143,789	144,139

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-70. R&D expenditures at university-administered federally funded research and development centers, by character of work: fiscal years 1953-1998

[Dollars in millions]

Fiscal year	Total	Character of work			
		Basic research		Applied research and development	
		Amount	Percent of total	Amount	Percent of total
1953	121	33	27.3	88	72.7
1954	141	39	27.7	102	72.3
1955	180	49	27.2	131	72.8
1956	194	51	26.3	143	73.7
1957	240	65	27.1	175	72.9
1958	293	78	26.6	215	73.4
1959	338	92	27.2	246	72.8
1960	360	97	26.9	263	73.1
1961	410	115	28.0	295	72.0
1962	470	136	28.9	334	71.1
1963	530	159	30.0	371	70.0
1964	629	191	30.4	438	69.6
1965	629	208	33.1	421	66.9
1966	630	227	36.0	403	64.0
1967	673	250	37.1	423	62.9
1968	719	276	38.4	443	61.6
1969	725	275	37.9	450	62.1
1970	737	269	36.5	468	63.5
1971	716	260	36.3	456	63.7
1972	753	244	32.4	509	67.6
1973	817	296	36.2	521	63.8
1974	865	390	45.1	475	54.9
1975	987	439	44.5	548	55.5
1976	1,147	512	44.6	635	55.4
1977	1,384	600	43.4	784	56.6
1978 ¹	1,717	--	--	--	--
1979	1,935	1,022	52.8	913	47.2
1980	2,246	1,132	50.4	1,114	49.6
1981	2,486	1,270	51.1	1,216	48.9
1982	2,479	1,327	53.5	1,152	46.5
1983	2,737	1,484	54.2	1,253	45.8
1984	3,150	1,690	53.6	1,461	46.4
1985	3,523	1,765	50.1	1,758	49.9
1986	3,895	1,876	48.2	2,018	51.8
1987	4,206	2,033	48.3	2,173	51.7
1988	4,531	2,245	49.6	2,285	50.4
1989	4,730	2,352	49.7	2,377	50.3
1990	4,832	2,428	50.2	2,404	49.8
1991	5,078	2,595	51.1	2,484	48.9
1992	5,247	2,843	54.2	2,404	45.8
1993	5,295	2,938	55.5	2,357	44.5
1994	5,271	2,998	56.9	2,273	43.1
1995	5,363	2,742	51.1	2,622	48.9
1996	5,380	2,580	48.0	2,800	52.0
1997	5,440	2,683	49.3	2,757	50.7
1998	5,531	2,636	47.7	2,895	52.3

¹ Separate data for basic research and applied research and development were not collected for fiscal year 1978.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-71. R&D expenditures at university-administered federally funded research and development centers, by science and engineering field: fiscal years 1991-1998

[Dollars in thousands]

Field	1998	1997	1996	1995	1994	1993	1992	1991
Total	5,531,324	5,440,490	5,380,278	5,363,351	5,270,884	5,295,403	5,247,271	5,078,386
Engineering, total	2,196,497	2,041,582	1,869,832	1,939,425	1,786,215	1,713,257	1,804,266	1,788,516
Aeronautical and astronautical	386,771	370,590	332,884	339,325	223,562	158,952	162,722	156,265
Bioengineering/Bio- medical ¹	46,169	40,515	--	--	--	--	--	--
Chemical	60,804	63,124	68,650	68,742	78,613	76,470	78,425	70,277
Civil	41,129	36,073	29,427	31,354	30,703	32,575	33,583	16,109
Electrical	600,297	474,815	468,574	460,668	508,204	534,275	597,540	638,886
Mechanical	600,921	539,365	549,156	535,102	502,033	417,492	468,827	487,644
Metallurgical and materials	62,442	63,378	62,109	65,889	64,274	131,835	147,082	137,517
Other, n.e.c.	397,964	453,722	359,032	438,345	378,826	361,658	316,087	281,818
All sciences, total	3,334,827	3,398,908	3,510,446	3,423,926	3,484,669	3,582,146	3,443,005	3,289,870
Physical sciences	1,974,459	2,103,076	2,163,671	2,182,412	2,155,549	2,209,274	2,010,283	1,917,163
Astronomy	142,924	132,459	147,269	141,826	157,987	145,361	138,273	121,353
Chemistry	266,992	253,451	244,274	251,704	273,236	281,492	267,909	251,727
Physics	1,327,239	1,439,675	1,625,074	1,688,458	1,630,359	1,674,567	1,498,258	1,460,765
Other, n.e.c.	237,304	277,491	147,054	100,424	93,967	107,854	105,843	83,318
Environmental sciences	468,718	462,826	400,512	368,294	396,919	344,502	352,893	318,874
Atmospheric	202,661	227,590	208,820	187,953	183,995	156,327	149,233	125,612
Earth sciences	164,524	123,509	63,337	50,864	59,455	62,907	77,051	72,271
Oceanography	80	2,526	12,489	11,997	13,406	17,185	15,811	14,859
Other, n.e.c.	101,453	109,201	115,866	117,480	140,063	108,083	110,798	106,132
Mathematical sciences	29,747	29,504	98,501	83,330	113,971	119,938	124,313	132,222
Computer sciences	699,167	652,078	626,078	572,435	618,965	649,363	699,551	715,744
Life sciences	150,483	134,090	126,482	120,484	122,311	191,261	191,166	145,531
Agricultural sciences	0	1,320	1,286	1,067	1,216	1,077	1,153	1,041
Biological sciences	122,085	101,212	105,354	90,100	99,479	136,797	139,047	115,145
Medical sciences	18,832	19,448	13,663	20,875	13,059	14,897	16,250	11,355
Other, n.e.c.	9,566	12,110	6,179	8,442	8,557	38,490	34,716	17,990
Psychology	0	602	600	0	807	887	945	1,075
Social sciences	0	625	7,660	9,047	10,594	21,729	21,417	33,935
Economics	0	317	294	338	540	578	613	741
Political science	0	0	0	0	0	5,350	5,055	7,610
Sociology	0	0	0	0	0	0	0	0
Other, n.e.c.	0	308	7,366	8,709	10,054	15,801	15,749	25,584
Other sciences, n.e.c.	12,253	16,107	86,942	87,924	65,553	45,192	42,437	25,326

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

Table B-72. Federally financed R&D expenditures at university-administered federally funded research and development centers, by science and engineering field: fiscal years 1991-1998

[Dollars in thousands]

Field	1998	1997	1996	1995	1994	1993	1992	1991
Total	5,404,630	5,321,913	5,299,366	5,272,548	5,202,526	5,241,537	5,197,986	5,033,968
Engineering, total	2,156,261	2,005,888	1,849,464	1,914,876	1,769,468	1,700,839	1,794,182	1,778,686
Aeronautical and astronautical	385,600	369,335	331,875	338,161	222,178	158,832	162,602	156,108
Bioengineering/Bio- medical ¹	45,386	39,913	--	--	--	--	--	--
Chemical	59,482	61,745	67,713	67,841	77,714	75,541	77,551	69,592
Civil	40,425	35,511	29,067	30,960	30,275	32,050	33,068	15,871
Electrical	587,828	464,213	462,651	453,185	503,721	531,629	595,600	636,548
Mechanical	586,198	526,898	542,243	525,487	497,730	415,151	467,487	486,112
Metallurgical and materials	61,881	62,874	61,715	65,464	63,828	130,109	145,561	135,947
Other, n.e.c.	389,461	445,399	354,200	433,778	374,022	357,527	312,313	278,508
All sciences, total	3,248,369	3,316,025	3,449,902	3,357,672	3,433,058	3,540,698	3,403,804	3,255,282
Physical sciences	1,927,157	2,065,092	2,138,207	2,147,101	2,132,477	2,187,407	1,992,759	1,898,501
Astronomy	142,756	131,688	147,037	141,621	157,580	144,302	137,832	120,725
Chemistry	260,439	248,001	241,416	247,826	270,088	277,458	265,103	248,837
Physics	1,300,773	1,414,325	1,606,907	1,662,116	1,617,090	1,663,784	1,489,596	1,449,997
Other, n.e.c.	223,189	271,078	142,847	95,538	87,719	101,863	100,228	78,942
Environmental sciences	449,889	441,900	382,726	352,146	378,043	335,223	339,449	314,269
Atmospheric	191,968	214,027	194,896	176,071	169,125	149,637	138,362	123,624
Earth sciences	159,533	120,258	62,095	49,644	58,355	61,990	76,103	71,294
Oceanography	78	2,526	12,489	11,997	13,406	17,185	15,811	14,859
Other, n.e.c.	98,310	105,089	113,246	114,434	137,157	106,411	109,173	104,492
Mathematical sciences	28,890	28,694	96,973	81,796	112,468	118,872	123,471	131,130
Computer sciences	691,995	646,633	623,471	568,227	616,498	647,575	698,151	713,894
Life sciences	141,277	119,877	115,446	113,092	118,182	185,328	186,711	138,335
Agricultural sciences	0	1,320	1,286	1,067	1,216	1,077	1,153	1,041
Biological sciences	116,272	88,679	96,070	84,366	95,702	131,711	135,405	108,423
Medical sciences	15,561	17,881	11,960	19,277	12,784	14,619	15,987	11,161
Other, n.e.c.	9,444	11,997	6,130	8,382	8,480	37,921	34,166	17,710
Psychology	0	602	600	0	806	887	945	1,075
Social sciences	0	625	7,580	8,945	10,465	21,404	21,074	33,325
Economics	0	317	294	338	540	578	613	741
Political science	0	0	0	0	0	5,264	4,969	7,471
Sociology	0	0	0	0	0	0	0	0
Other, n.e.c.	0	308	7,286	8,607	9,925	15,562	15,492	25,113
Other sciences, n.e.c.	9,161	12,602	84,899	86,365	64,119	44,002	41,244	24,753

¹ Data for bioengineering/biomedical engineering were not collected separately prior to fiscal year 1997.

NOTE: Because of rounding, detail may not add to totals.

KEY: -- = not available
n.e.c. = not elsewhere classified

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-73. R&D expenditures at university-administered federally funded research and development centers,
by science and engineering field: fiscal year 1998**

[Dollars in thousands]

Institution and ranking	Total	Engi- neering	Physical sciences	Environ- mental sciences	Math & computer sciences	Life sciences	Psy- chology	Social sciences	Other sciences
Total, all institutions	5,531,324	2,196,497	1,974,459	468,718	728,914	150,483	0	0	12,253
1 Jet Propulsion Laboratory	1,232,170	628,288	93,785	69,403	432,858	4,478	0	0	3,358
2 Los Alamos National Lab	1,187,000	675,720	503,538	0	0	7,742	0	0	0
3 Lawrence Livermore Lab	1,076,800	426,139	350,810	116,537	151,766	31,548	0	0	0
4 Argonne Natl Laboratory	477,133	200,911	144,774	96,770	13,031	21,647	0	0	0
5 MIT Lincoln Laboratory	364,783	248,052	66,938	8,025	39,579	2,189	0	0	0
6 Lawrence Berkeley Lab	330,300	9,670	159,384	23,565	61,112	67,674	0	0	8,895
7 Fermi Natl Accel Lab ¹	282,049	0	282,049	0	0	0	0	0	0
8 Stanford Linear Accel Ctr	131,680	0	131,680	0	0	0	0	0	0
9 Natl Ctr Atmospheric Res ²	130,865	0	0	130,865	0	0	0	0	0
10 T J Natl Accel Facility	75,963	0	75,963	0	0	0	0	0	0
Total, 1st 10 institutions	5,288,743	2,188,780	1,808,921	445,165	698,346	135,278	0	0	12,253
11 Plasma Physics Lab	53,005	0	53,005	0	0	0	0	0	0
12 Oak Ridge Associated Univ ³	50,750	659	14,189	20,689	8	15,205	0	0	0
13 Natl Optical Astro Obs ⁴	38,283	0	38,283	0	0	0	0	0	0
14 Natl Radio Astronomy Obs ⁵	34,708	0	34,708	0	0	0	0	0	0
15 Software Engineering Inst	30,113	0	0	0	30,113	0	0	0	0
16 Ames Laboratory	24,637	7,058	16,988	144	447	0	0	0	0
17 Natl Astron & Ions Ctr	11,085	0	8,365	2,720	0	0	0	0	0
Total, 1st 17 institutions	5,531,324	2,196,497	1,974,459	468,718	728,914	150,483	0	0	12,253

1 Universities Research Association

2 University Corporation for Atmospheric Research

3 Oak Ridge Associated Universities

4 Association of Universities for Research in Astronomy, Inc

5 Associated Universities, Inc

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

**Table B-74. Total and federally financed R&D expenditures at university-administered
federally funded research and development centers: fiscal years 1995-1998**

[Dollars in thousands]

Institution and ranking	Total				Federally financed			
	1998	1997	1996	1995	1998	1997	1996	1995
Total, all institutions	5,531,324	5,440,490	5,380,278	5,363,351	5,404,630	5,321,913	5,299,366	5,272,548
1 Jet Propulsion Laboratory	1,232,170	1,210,890	1,089,420	1,099,180	1,232,170	1,210,890	1,089,420	1,099,180
2 Los Alamos National Lab	1,187,000	1,121,670	1,019,512	1,109,400	1,168,302	1,106,000	1,008,000	1,096,000
3 Lawrence Livermore Lab	1,076,800	908,700	1,049,100	893,716	1,032,192	870,900	1,029,957	859,786
4 Argonne Natl Laboratory	477,133	451,769	488,627	508,663	457,515	432,602	476,542	496,431e
5 MIT Lincoln Laboratory	364,783	352,591	338,264	344,657	356,661	346,410	334,038	340,896
6 Lawrence Berkeley Lab	330,300	307,077	304,180	258,804	308,870	284,729	287,011	244,361
7 Fermi Natl Accel Lab ¹	282,049	272,796	264,325	258,408	282,049	272,796	264,325	258,408
8 Stanford Linear Accel Ctr	131,680	122,441	119,606	126,115	131,680	122,441	119,606	126,115
9 Natl Ctr Atmospheric Res ²	130,865	135,980	132,394	125,310	121,121	123,663	118,965	113,797
10 T J Natl Accel Facility	75,963	79,647	73,658	74,015	74,963	75,778	70,947	72,794
Total, 1st 10 institutions	5,288,743	4,963,561	4,879,086	4,798,268	5,165,523	4,846,209	4,798,811	4,707,768
11 Plasma Physics Lab	53,005	59,146	61,313	125,685	49,699	58,692	60,978	125,621
12 Oak Ridge Associated Univ ³	50,750	44,022	45,733	1,101	50,750	44,022	45,733	1,011
13 Natl Optical Astro Obs ⁴	38,283	29,058	46,995e	45,005e	38,283	29,058	46,995e	45,005e
14 Natl Radio Astronomy Obs ⁵	34,708	33,172	30,832	33,047	34,540	32,401	30,675	32,920
15 Software Engineering Inst	30,113	32,229	33,675	31,525	30,113	32,229	33,675	31,525
16 Ames Laboratory	24,637	27,680	30,075	31,925	24,637	27,680	30,075	31,925
17 Natl Astron & Ionos Ctr	11,085	12,570	17,951	15,647	11,085	12,570	17,806	15,625
18 Brookhaven Natl Lab ⁵ ⁶	--	239,052	234,618	281,148	--	239,052	234,618	281,148
Total, 1st 18 institutions	5,531,324	5,440,490	5,380,278	5,363,351	5,404,630	5,321,913	5,299,366	5,272,548

1 Universities Research Association

2 University Corporation for Atmospheric Research

3 Oak Ridge Associated Universities

4 Association of Universities for Research in Astronomy, Inc

5 Associated Universities, Inc

6 Effective FY 1998, Brookhaven Natl Lab changed from a university-administered FFRDC to a nonprofit FFRDC. Therefore, data are no longer collected under this survey.

NOTE: Because of rounding, detail may not add to totals.

KEY:
 -- = not available
 e = estimated
 i = imputed

SOURCE: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

SECTION C.

UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS: FY 1998

DEPARTMENT OF DEFENSE
Lincoln Laboratory
(Massachusetts Institute of Technology)
Software Engineering Institute
(Carnegie Mellon University)

DEPARTMENT OF ENERGY
Ames Laboratory
(Iowa State University of Science
and Technology)
Argonne National Laboratory
(University of Chicago and
Argonne Universities Association)
Continuous Electron Beam Accelerator Facility
(Southeastern Universities Research Association)
E.O. Lawrence Berkeley Laboratory
(University of California)
E.O. Lawrence Livermore Laboratory
(University of California)
Fermi National Accelerator Laboratory
(Universities Research Association)
Los Alamos National Laboratory
(University of California)

Oak Ridge Institute of Science and Education
(Oak Ridge Associated Universities)
Plasma Physics Laboratory
(Princeton University)
Stanford Linear Accelerator Center
(Stanford University)

**NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION**
Jet Propulsion Laboratory
(California Institute of Technology)

NATIONAL SCIENCE FOUNDATION
National Astronomy and Ionosphere Center
(Cornell University)
National Center for Atmospheric Research
(University Corporation for Atmospheric
Research)
National Optical Astronomy Observatory
(Association of Universities for Research in
Astronomy, Inc.)
National Radio Astronomy Observatory
(Associated Universities, Inc.)

SECTION D.

SURVEY INSTRUMENTS

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NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

Dear Colleague:

The National Science Foundation (NSF) and I would like to thank you in advance for your continued participation in its annual Survey of Research and Development Expenditures at Universities and Colleges (academic R&D expenditures survey). By contributing timely and accurate information to this fiscal year (FY) 1998 survey, you can ensure that your institution is represented in data used by members of Congress, Federal and State government planners, and officials in the academic sector to assess the adequacy of the Nation's research base.

Coverage for the academic R&D expenditures survey includes U.S. institutions that currently have doctoral programs in science and engineering (S&E) fields with any amount of R&D expenditures, institutions that have the status of Historically Black College or University (HBCU) with any amount of R&D expenditures, or institutions that annually perform at least \$150,000 in separately budgeted research and development S&E activities. The reliability of the data and therefore the soundness of institutional, State, and national decisions based upon them are in large measure contingent upon receipt of complete and accurate data from all surveyed institutions.

The survey questionnaire is due January 22, 1999.

This packet contains the following items:

1. Postcard to acknowledge that you have received this package
2. FY 1998 academic R&D expenditures survey questionnaire (NSF Form 411), with instructions, NSF/NCES Crosswalk, and **Web User ID and Password**
3. FY 1998 Optional Non-S&E Item 2A survey form
4. FY 1998 Optional Item 2B survey form
5. FY 1998 Optional Capitalization Threshold Item 3A survey form
6. Facsimile showing data reported for your institution on the FY 1995–97 surveys
7. Informational brochure on the new Web Data Collection System
8. Question-and-Answer booklet
9. "FYI" flyer describing the NSF academic survey system
10. "Accessing NSF Data on the Internet"
11. Envelope for returning the completed survey questionnaire

Please let us know if your package is not complete!

POSTCARD

Please take a moment to let us know you have received this package by completing and mailing the enclosed postcard, giving the name and telephone number of the person responsible for completing the survey form.

FY 1998 SURVEY

There is a **major change** in the FY 1998 survey. The Automated Survey Questionnaire (ASQ) diskette will no longer be used; it has been replaced by a Web data collection system. You will find an informational brochure about using the new R&D Web data collection system in this packet. **Please note that your Web user ID and password are printed on the questionnaire label, which also contains your name and address.**

OPTIONAL ITEM 2A SURVEY FORM: FY 1998

To help NSF better understand how much **non-science and engineering R&D** is conducted at universities and colleges, please complete the Optional Item 2A and return it with the completed survey questionnaire. This format may become part of the survey questionnaire in FY 1999 but remains optional this year. All data reported by individual institutions on the optional item are **STRICTLY CONFIDENTIAL**. These data will not be published nor made available at the institutional level to the public.

OPTIONAL ITEM 2B SURVEY FORM: FY 1998

Please also take a moment to complete this item, which collects Federal R&D support statistics for major **individual Federal agencies**. This format may become part of the survey questionnaire in FY 1999 but remains optional this year. All data reported by individual institutions on the optional item are **STRICTLY CONFIDENTIAL**. These data will not be published nor made available at any level to the public; they will be used for internal analyses.

OPTIONAL ITEM 3A SURVEY FORM: FY 1998

To help NSF better understand what is being reported as current expenditures for research equipment funds, please complete the Optional Item 3A and return it with the completed survey questionnaire. This format may become part of the survey questionnaire in FY 1999 but remains optional this year. All data reported by individual institutions on the optional item are **STRICTLY CONFIDENTIAL**. These data will not be published nor made available at any level to the public; they will be used only for internal analyses.

WORLD WIDE WEB

An academic R&D expenditures survey home page is now available through the World Wide Web on the Internet. The page contains information about the survey and provides direct access to publications and data. To reach it, direct your browser to the following URL address: <http://www.nsf.gov/sbe/srs/rdexp/start.htm>. For more extensive S&E statistics, please try the Science Resources Studies home page: <http://www.nsf.gov/sbe/srs/stats.htm>. To submit your institution's data over the Web, the address for the Web data collection survey is <http://www.qrc.com/expweb>. **Please note that your Web user ID and password are printed on the questionnaire label, which also contains your name and address.**

FOR MORE INFORMATION

Please review the enclosed Question-and-Answer booklet, which contains useful information for completing the survey. If you have questions about the survey or would like information about our publications or data, please call Marge Machen of NSF at (703) 306-1772 or Atessa Shahmirzadi of Quantum Research Corporation at (301) 657-3077, ext. 140.

If you prefer to submit your data electronically (in a layout similar to the questionnaire), please send e-mail to Dameka Thompson at dthompso@qrc.com.

Thank you for your efforts in providing timely and meaningful statistics to NSF.

Sincerely,



John E. Jankowski, Jr., Director
Research and Development Statistics Program
Division of Science Resources Studies

Enclosures



NATIONAL SCIENCE FOUNDATION
ARLINGTON, VA 22230

FORM APPROVED
OMB No. 3145-0100
Expiration Date: 12/31/99

SURVEY OF RESEARCH AND DEVELOPMENT EXPENDITURES AT UNIVERSITIES AND COLLEGES, FY 1998

Organizations are requested to complete and return this form to:

Quantum Research Corporation
7315 Wisconsin Avenue, Suite 400W
Bethesda, MD 20814-3202

If you prefer, your response to the survey may be sent by e-mail to:
dthompsq@qrc.com

This form should be returned by January 22, 1999.

REMEMBER: Now you can submit your data on the Web at <http://www.qrc.com/expweb>. For more information, please see the informational brochure on the Web collection. Please note that your Web user ID and password are printed on the adjacent label, which also contains your name and address.

Your cooperation in returning the survey questionnaire promptly is very important.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. Your response is entirely voluntary and your failure to provide some or all of the information will in no way adversely affect your institution.

All financial data requested on this form should be reported in thousands of dollars; for example, an expenditure of \$25,342 should be rounded to the nearest thousand dollars and reported as \$25.

Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

Include data for branches and all organizational units of your institution, such as medical schools and agricultural experiment stations. Data on research centers and facilities administered by your institution should be included. In addition, include hospitals or clinics owned, operated, or controlled by universities, and integrated operationally with the clinical programs of your medical schools.

NOTE: Academic institutions should exclude data for federally funded research and development centers (FFRDCs). Data for these facilities are collected separately.

Please correct if name or address has changed

If you have any questions please contact Marge Machen of NSF at (703) 306-1772, or Dameka Thompson of QRC at (301) 657-3077, ext. 132.

Financial data are requested for your institution's 1998 fiscal year.

Please circle the month in which your institution's fiscal year begins

1	2	3	4	5	6	7	8	9	10	11	12
JAN DEC											

It is estimated that response to this survey will require 18 hours. If you wish to comment on this burden, please contact Mary Lou Higgs of NSF at (703) 306-1125, ext. 2063, or e-mail mjhiggs@nsf.gov.

How many person hours were required to complete this form? _____

Date submitted _____

Scope:

This survey collects data on expenditures by universities and colleges for separately budgeted research and development (R&D) in science and engineering. Definitions used are compatible with OMB Circular A-21, revised April 26, 1996. Items 1 and 2 ask for *current fund expenditures* by source of funds and by field of science and engineering. Item 3 collects data on that *portion of current fund expenditures* reported in Items 1 and 2 that went for the purchase of scientific and engineering research equipment.

Definitions:

Research and Development (R&D). R&D for purposes of this survey is the same as "organized research" as defined in Section B.1.b. of OMB Circular A-21 (revised). It includes all R&D activities of an institution that are *separately budgeted and accounted for*. R&D includes both "sponsored research" activities (sponsored by Federal and non-Federal agencies and organizations) and "university research" (separately budgeted under an internal application of institutional funds).

Research is systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.

Development is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

Current fund expenditures. These are expenditures of funds available for current operations. Such expenditures include all unrestricted gifts and restricted current funds to the extent that such funds were expended for current operating purposes.

PERSON WHO SUBMITTED THIS FORM (PLEASE TYPE OR PRINT)

NAME:	TELEPHONE NUMBER:
TITLE:	E-MAIL:
	FAX:

PERSON WHO PREPARED THIS FORM (IF DIFFERENT FROM ABOVE)

NAME:	TELEPHONE NUMBER:
TITLE:	E-MAIL:
	FAX:

Instructions for Items 1 and 2

Separately budgeted research and development (R&D) includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. *Include* research equipment purchased under research project awards from "current fund" accounts. Also *include* research funds for which an outside organization, educational or other, is a subrecipient. *Exclude* training grants, public service grants, demonstration projects, clinical trials, and departmental research expenditures that are not separately budgeted. Also, *exclude* any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, as well as all other non-science fields. Allocate funding to the original sources whenever possible, as specified below. If this information is unknown, report the proximate funding source.

Total

- a. **Federal Government.** Report awards for R&D (including direct and reimbursed indirect costs) by all agencies of the Federal Government.
- b. **State and local governments.** Include funds for R&D (including direct and reimbursed indirect costs) from state, county, municipal, or other local governments and their agencies. Include here state funds that support R&D at agricultural and other experiment stations.
- c. **Industry.** Include all awards for R&D (including direct and reimbursed indirect costs) from profit-making organizations, whether engaged in production, distribution, research, service, or other activities. Do not include awards from nonprofit foundations financed by industry; these should be reported under "All other sources" (line 1175).
- d. **Institution funds.** Report funds, *including* related indirect costs, that your institution spent for R&D activities from the following unrestricted sources: general-purpose state or local government appropriations; general-purpose awards from industry, foundations, or other outside sources; tuition and fees; endowment income; gifts; and other institutional funds. In addition, estimate your institution's on-campus and off-campus unreimbursed indirect costs associated with externally funded R&D projects, including mandatory and voluntary cost sharing. To estimate unreimbursed indirect costs, preferably on a project-by-project basis, use your appropriate on-campus or off-campus ***negotiated research indirect cost rate(s)*** multiplied by the corresponding base(s) minus actual indirect cost recovery.
- e. **All other sources.** Include awards for R&D (including direct and reimbursed indirect costs) from nonprofit foundations and voluntary health agencies as well as from all other sources not elsewhere classified. Funds from foundations that are affiliated with, or granted solely to your institution, should be included under line 1160, "Institution funds." Funds for R&D received from a health agency that is a unit of a state or local government should be reported under "State and local governments" (line 1125). Also include gifts from individuals that are restricted by the donor to research.

ITEM 1. CURRENT FUND EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING, BY SOURCE OF FUNDS: FY 1998 (Include indirect costs)

Source of Funds	Line No.	(1) Total (Dollars in Thousands)	(2) Percentages of Total & Federal Funds That Are Basic Research
a. Federal Government	1110	\$ _____ %	
b. State and local governments	1125		
c. Industry	1150		
d. Institution funds (sum of lines 1161 and 1162)	1160		
(1) Institutionally financed organized research	1161		
(2) Unreimbursed indirect costs and related sponsored research	1162		
e. All other sources	1175		
f. TOTAL (sum of a through e)	1100	\$ _____ %	

BASIC RESEARCH

Please provide the percentages of total and Federal expenditures that are basic research (not applied research) as defined in column (2).

CONFIDENTIALITY

Information received from individual institutions in lines 1161 and 1162, estimates for basic research expenditures, or data provided in Item 1A will NOT be published or released; only aggregate totals will appear in tabulations.

ITEM 1A. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING PASSED THROUGH THE INSTITUTION TO SUBRECIPIENTS

How much of your total R&D (line 1100) and Federal R&D (line 1110) expenditures was passed through by your institution to subrecipients?			
Subrecipients	Line No.	Dollars in Thousands	
		(1) Total	(2) Federal
Educational subrecipients	1910		
Other subrecipients	1920		
Total	1900		

For Federal awards, **subrecipient** means the entity that expends Federal awards received from a pass-through entity to carry out a Federal program, but does not include an individual that is a beneficiary of such a program. A subrecipient may also be a recipient of other Federal awards directly from a Federal awarding agency. —OMB Circular A-133, Section .105 (revised April 22, 1996) For awards from non-Federal sources, the subrecipient definition is analogous to the Federal one.

Educational [subrecipients] refers to all academic colleges and universities and all units owned, operated, and controlled by such institutions.

**ITEM 2. CURRENT FUND EXPENDITURES
(TOTAL AND FEDERALLY FINANCED)
FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT,
BY FIELD OF SCIENCE AND ENGINEERING: FY 1998
(Include indirect costs)**

Please note that total R&D expenditures in line 1400, column (1) should be the same as reported in Item 1, line 1100, column 1.

Federally financed R&D expenditures in line 1400, column (2) should be the same as reported in Item 1, line 1110, column 1.

Field of science & engineering	Line No.	(Dollars in thousands)	
		(1) Total	(2) Federal
a. ENGINEERING (TOTAL)	1410	\$	\$
(1) Aeronautical & astronautical	1411		
(2) Bioengineering/biomedical engineering	1418		
(3) Chemical	1412		
(4) Civil	1413		
(5) Electrical	1414		
(6) Mechanical	1415		
(7) Metallurgical & materials	1417		
(8) Other	1416		
b. PHYSICAL SCIENCES (TOTAL)	1420		
(1) Astronomy	1421		
(2) Chemistry	1422		
(3) Physics	1423		
(4) Other	1424		
c. ENVIRONMENTAL SCIENCES (TOTAL)	1430		
(1) Atmospheric	1431		
(2) Earth sciences	1432		
(3) Oceanography	1433		
(4) Other	1434		
d. MATHEMATICAL SCIENCES (TOTAL)	1441		
e. COMPUTER SCIENCES (TOTAL)	1442		
f. LIFE SCIENCES (TOTAL)	1450		
(1) Agricultural	1451		
(2) Biological	1452		
(3) Medical	1453		
(4) Other	1454		
g. PSYCHOLOGY (TOTAL)	1460		
h. SOCIAL SCIENCES (TOTAL)	1470		
(1) Economics	1471		
(2) Political science	1472		
(3) Sociology	1473		
(4) Other	1474		
i. OTHER SCIENCES, not elsewhere classified (TOTAL)	1480		
j. TOTAL (sum of a through i)	1400	\$	\$

Please EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other non-science and engineering fields.

**ITEM 3. CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT (TOTAL AND FEDERALLY FINANCED)
FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT,
BY FIELD OF SCIENCE AND ENGINEERING: FY 1998**

Please report that portion of current fund expenditures reported in items 1 and 2 that went for the purchase of research equipment. This includes all research equipment purchased under sponsored research project awards from current fund accounts.

For column (1), report current fund expenditures for R&D from all sources: Federal Government, State, county, municipal or other governments and their agencies (including State funds supporting R&D at agricultural experiment stations); industry; institution funds; and private foundations and voluntary health agencies, individuals, and associations.

For column (2), include funds from awards for R&D sponsored by agencies of the Federal Government.

Field of science & engineering	Line No.	(Dollars in thousands)	
		(1) Total	(2) Federal
a. ENGINEERING (TOTAL)	1810	\$	\$
(1) Aeronautical & astronautical	1811		
(2) Bioengineering/biomedical engineering	1818		
(3) Chemical	1812		
(4) Civil	1813		
(5) Electrical	1814		
(6) Mechanical	1815		
(7) Metallurgical & materials	1817		
(8) Other	1816		
b. PHYSICAL SCIENCES (TOTAL)	1820		
(1) Astronomy	1821		
(2) Chemistry	1822		
(3) Physics	1823		
(4) Other	1824		
c. ENVIRONMENTAL SCIENCES (TOTAL)	1830		
(1) Atmospheric	1831		
(2) Earth sciences	1832		
(3) Oceanography	1833		
(4) Other	1834		
d. MATHEMATICAL SCIENCES (TOTAL)	1841		
e. COMPUTER SCIENCES (TOTAL)	1842		
f. LIFE SCIENCES (TOTAL)	1850		
(1) Agricultural	1851		
(2) Biological	1852		
(3) Medical	1853		
(4) Other	1854		
g. PSYCHOLOGY (TOTAL)	1860		
h. SOCIAL SCIENCES (TOTAL)	1870		
(1) Economics	1871		
(2) Political science	1872		
(3) Sociology	1873		
(4) Other	1874		
i. OTHER SCIENCES, not elsewhere classified (TOTAL)	1880		
j. TOTAL (sum of a through i)	1800	\$	\$

Current fund expenditures in each field for scientific research equipment is that PORTION or SUBTOTAL of the amounts reported in the corresponding cells of the "Total" and "Federal" columns in Item 2.

**CROSSWALK BETWEEN NSF FIELDS OF SCIENCE & ENGINEERING AND THE
NATIONAL CENTER FOR EDUCATION STATISTICS (NCES) CLASSIFICATION OF INSTRUCTIONAL PROGRAMS**

The left-hand column shows each of the detailed fields as displayed on the questionnaire form. The right-hand column shows the NCES fields that are included within the NSF category as well as some additional illustrative disciplines. These additional disciplines are intended to be guidelines—not sharp definitions—as to what should be reported under a particular field.

Questionnaire Field	NCES Classification and Additional Illustrative Disciplines				
a. ENGINEERING (1) Aeronautical & Astronautical	14.02 Aerospace, Aeronautical, and Astronautical Engineering (also aerodynamics, space technology)				
(2) Bioengineering/ Biomedical Engineering	14.05 Bioengineering and Biomedical Engineering				
(3) Chemical	03.0509 Wood Science (also petroleum refining process)	14.07 Chemical Engineering 14.32 Polymer/Plastics Engineering	14.25 Petroleum Engineering		
(4) Civil	04.02 Architecture 14.14 Environmental/Environmental Health Engineering		14.04 Architectural Engineering	14.08 Civil Engineering	
	(also geotechnical, hydraulic, hydrologic, sanitary and environmental, structural, transportation)				
(5) Electrical	14.09 Computer Engineering (also power engineering)	14.10 Electrical, Electronics, and Communications Engineering			
(6) Mechanical	14.11 Engineering Mechanics	14.19 Mechanical Engineering			
(7) Metallurgical & Materials	14.06 Ceramic Sciences and Eng. 14.18 Materials Engineering 14.28 Textile Sciences and Eng. (also welding)	14.15 Geological Engineering 14.20 Metallurgical Engineering 14.31 Materials Science	14.16 Geophysical Engineering 14.21 Mining and Mineral Eng. 40.0701 Metallurgy		
(8) Other	14.01 Engineering, General 14.13 Engineering Science 14.23 Nuclear Engineering 14.27 Systems Engineering 14.99 Engineering, Other (also marine and ocean engineering systems)	14.03 Agricultural Engineering 14.17 Industrial/Manufacturing Eng. 14.24 Ocean Engineering 14.29 Engineering Design 30.06 Systems Science and Theory	14.12 Engineering Physics 14.22 Naval Architecture and Marine Engineering 14.30 Eng./Industrial Management		
b. PHYSICAL SCIENCES	40.02 Astronomy 40.03 Astrophysics (also Gamma-ray, neutrino, optical and radio, X-ray)				
(1) Astronomy					
(2) Chemistry	40.05 Chemistry (also analytical, inorganic, organic, organo-metallic, pharmaceutical, physical, polymer sciences (except biochemistry))				
(3) Physics	40.08 Physics (also acoustics, atomic/molecular, chemical, condensed matter, elementary particles, nuclear structure, optics, plasma, theoretical/mathematical)				
(4) Other	40.01 Physical Sciences, General	40.0799 Miscellaneous Physical Sciences, Other	40.99 Physical Sciences, Other		
	(used for multidisciplinary projects within physical sciences and for disciplines not requested separately)				
c. ENVIRONMENTAL SCIENCES (Earth, Atmospheric, & Ocean)	40.04 Atmospheric Sciences and Meteorology (also aeronomy, extraterrestrial atmospheres, solar, weather modification)				
(1) Atmospheric					
(2) Earth Sciences	15.1102 Surveying 40.0703 Earth & Planetary Sciences	40.06 Geological and Related Sciences 45.0702 Cartography	45.0702 Cartography		
	(also engineering geophysics, general geology, geodesy and gravity, geomagnetism, hydrology, inorganic, isotopic, lab geophysics, organic geochemistry, paleomagnetism, paleontology, physical geography, seismology)				
(3) Oceanography	26.0607 Marine/Aquatic Biology	40.0702 Oceanography			
	(also biological, chemical, geological, physical)				
(4) Other	(used for multidisciplinary projects within Earth, Atmospheric, and Ocean Sciences)				
d. MATHEMATICAL SCIENCES	27.01 Mathematics, General 27.05 Mathematical Statistics	27.03 Applied Mathematics 27.99 Mathematics, Other	27.0302 Operations Research 30.08 Math./Computer Sciences		
	(also algebra, analysis, foundations and logic, geometry, numerical analysis, topology)				

Questionnaire Field	NCES Classification and Additional Illustrative Disciplines (cont.)				
e. COMPUTER SCIENCES	11 Computer and Information Science, General (also design, development, and application of computer capabilities to data storage and manipulation, information science)				
f. LIFE SCIENCES	01.03 Agricultural Production 02.01 Agricultural Sciences 03 Renewable Natural Resources	01.0303 Aquaculture 02.04 Plant Sciences 04.06 Landscape Architecture (also agricultural chemistry, agronomy, animal science, conservation, fish and wildlife, forestry, horticulture)	01.07 International Agriculture 02.05 Soil Science		
(1) Agricultural					
(2) Biological	19.05 Foods and Nutrition Studies 26.0203 Biophysics 26.05 Microbiology/Bacteriology 26.0609 Nutritional Sciences 26.0613 Genetics, Plant and Animal 26.0699 Misc. Bio. Specializations, Other 26.0704 Pathology, Human and Animal 26.0799 Zoology, Other 26.99 Biolog./Life Sciences, Other 51.1307 Medical Immunology 51.1313 Medical Physiology (also allergies and immunology, biogeography, biotechnology, pathology, physical anthropology, virology)	26.01 Biology, General 26.03 Botany 26.0601 Anatomy 26.0610 Parasitology 26.0614 Biometrics 26.0701 Zoology 26.0705 Pharmacology, Human and Animal 51.1301 Medical Anatomy 51.1308 Medical Microbiology 51.1314 Medical Toxicology (also allergies and immunology, biogeography, biotechnology, pathology, physical anthropology, virology)	26.0202 Biochemistry 26.04 Cell and Molecular Biology 26.0603 Ecology 26.0612 Toxicology 26.0615 Biostatistics 26.0702 Entomology 26.0706 Physiology, Human and Animal 51.1302 Medical Biochemistry 51.1312 Medical Pathology 51.2203 Epidemiology	26.0202 Biochemistry 26.04 Cell and Molecular Biology 26.0603 Ecology 26.0612 Toxicology 26.0615 Biostatistics 26.0702 Entomology 26.0706 Physiology, Human and Animal 51.1302 Medical Biochemistry 51.1312 Medical Pathology 51.2203 Epidemiology	
(3) Medical	26.0608 Neurosciences 51.1201 Medicine, General 51.17 Optometry 51.20 Pharmacy 51.24 Veterinary Medicine ¹ Anesthesiology Dental/Oral Surgery Gastroenterology Hematology Neonatal-Perinatal Medicine Nuclear Medicine Oncology Otorhinolaryngology Physical and Rehabilitative Medicine Psychiatry (exclude all residency programs)	26.0611 Radiation Biology/Radiobiol. 51.1399 Med. Basic Sciences, Other 51.19 Osteopathic Medicine 51.21 Podiatry Cardiology Dermatology General Surgery Internal Medicine Neurological Surgery Nuclear Radiology Ophthalmology Pediatrics Plastic Surgery Thoracic Surgery	51.04 Dentistry 51.1610 Nursing Psychiatry/ Mental Health 51.22 Public Health Colon and Rectal Surgery Family Medicine Geriatric Medicine Medical Programs, Other Neurology Obstetrics and Gynecology Orthopedics/Orthopedic Surgery Pharmacology Preventive Medicine Urology	51.04 Dentistry 51.1610 Nursing Psychiatry/ Mental Health 51.22 Public Health Colon and Rectal Surgery Family Medicine Geriatric Medicine Medical Programs, Other Neurology Obstetrics and Gynecology Orthopedics/Orthopedic Surgery Pharmacology Preventive Medicine Urology	
(4) Other	30.11 Gerontology 51.10 Health and Medical Laboratory Technologies 51.2308 Physical Therapy (used for multidisciplinary projects within life sciences)	51.02 Communication Disorders Sciences and Services 51.16 Nursing Technologies 51.2399 Rehab./Therapeutic Services	51.07 Health and Medical Administrative Services 51.2306 Occupational Therapy 51.99 Health Professions and Related Services, Other	51.07 Health and Medical Administrative Services 51.2306 Occupational Therapy 51.99 Health Professions and Related Services, Other	
g. PSYCHOLOGY	42.01 Psychology, General 51.2301 Art Therapy (also animal behavior, educational, experimental, human development and personality, social)	42.02 Clinical Psychology	42.17 School Psychology		
h. SOCIAL SCIENCES					
(1) Economics	01.0103 Agricultural Economics (also applied, development, econometrics, industrial, international, labor, public finance and fiscal policy, quantitative, resource)	45.06 Economics	52.06 Business/Managerial Econ.		
(2) Political Science	44.04 Public Administration 44.99 Public Admin. and Services, Other 45.10 Political Science and Government (also comparative government, legal systems, political theory, regional studies)	44.05 Public Policy Analysis 45.09 International Relations and Affairs			
(3) Sociology	45.02 Anthropology (Social and Cultural only) (also comparative and historical, complex organizations, cultural and social structure, group interactions, social problems and welfare theory)	45.05 Demography and Population Studies	45.11 Sociology		
(4) Other	04.03 City/Urban, Community, and Regional Planning 45.01 Social Sciences, General 45.12 Urban Studies/Affairs (also history of science, socioeconomic geography)	05 Area and Ethnic Studies 43.01 Crim'l. Justice & Corrections 45.03 Archaeology 45.99 Social Sciences, Other	16.0102 Linguistics 44.02 Community Services 45.07 Geography		
i. OTHER SCIENCES, n.e.c.	(used when the multidisciplinary and interdisciplinary aspects make the classification under one primary field impossible)				

¹ Institutions with schools of veterinary medicine should distribute R&D expenditures among the appropriate disciplines (agricultural, biological, and medical) rather than only in medical sciences.



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**OPTIONAL ITEM 2A. CURRENT FUND EXPENDITURES
(TOTAL AND FEDERALLY FINANCED)
FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT
BY NON-SCIENCE AND ENGINEERING FIELD: FY 1998
(Include indirect costs)**

NOTE: For rows 2A(a) through 2A(i), report only data that have not been reported in Items 1 and 2 on this survey.
Non-S&E R&D should **include** any separately budgeted scholarly and creative activity, but should **exclude** training.

Non-science & engineering fields	Line No.	(Dollars in thousands)	
		(1) Total	(2) Federal
a. EDUCATION	1510		
b. LAW	1520		
c. HUMANITIES	1530		
d. VISUAL & PERFORMING ARTS	1540		
e. BUSINESS AND MANAGEMENT	1550		
f. COMMUNICATIONS, JOURNALISM, AND LIBRARY SCIENCE	1560		
g. SOCIAL WORK	1570		
h. OTHER NON-S&E FIELDS, please specify:	1580		
i. TOTAL, NON-S&E FIELDS	1500		
j. TOTAL, S&E (from Item 2, line j)	1400		
k. GRAND TOTAL	1600		

**CROSSWALK BETWEEN NSF NON-SCIENCE & ENGINEERING FIELDS AND THE NATIONAL CENTER FOR
EDUCATION STATISTICS (NCES) CLASSIFICATION OF INSTRUCTIONAL PROGRAMS**

Questionnaire Field	CIP Code	CIP Program Category Title
Education	13.xx	Education
Law	22.xx	Law and Legal Studies
Humanities	16.xx 23.xx 24.xx 38.xx 39.xx 45.08	Foreign Languages & Literature English Language and Literature/Letters Liberal Arts & Sciences, General Studies & Humanities Philosophy and Religion Theological Studies and Religious Vocations History (except History of Science)
Visual & Performing Arts	50.xx	Visual and Performing Arts
Business and Management	52.xx 08.xx	Business Management and Administrative Services Marketing Operations/Marketing Distribution
Communications, Journalism, and Library Science	09.xx 25.xx 10.xx	Communications Library Science Communications Technologies
Social Work	44.07	Social Work
Other Non-S&E Fields	31.xx 29.xx	Parks, Recreation, Leisure and Fitness Studies Military Technologies

OPTIONAL ITEM 2B**CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE & ENGINEERING: FY 1998 (Include indirect costs)**

Please note that total R&D expenditures in line 1400, column (1) should be the same as reported in Item 1, line 1100, column 1. Federally financed R&D expenditures in line 1400, column (2) should be the same as reported in Item 1, line 1110, column 1.

Allocate funding to the original sources whenever possible. If that information is unknown, report the proximate funding source.

KEY: USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" Federal sources include all other Federal agencies.

		(Dollars in thousands)									
Field of science and engineering	Line No.	TOTAL ALL	TOTAL FEDERAL	SPECIFIC FEDERAL AGENCIES						NASA	NSF
		USDA	DoD	DOE	HHS*						
a. Engineering (Total)	1410										
(1) Aeronautical & astronautical	1411										
(2) Bioengineering/biomedical engineering	1418										
(3) Chemical	1412										
(4) Civil	1413										
(5) Electrical	1414										
(6) Mechanical	1415										
(7) Metallurgical & materials	1417										
(8) Other	1416										
b. Physical Sciences (Total)	1420										
(1) Astronomy	1421										
(2) Chemistry	1422										
(3) Physics	1423										
(4) Other	1424										
c. Environmental Sciences (Total)	1430										
(1) Atmospheric	1431										
(2) Earth sciences	1432										
(3) Oceanography	1433										
(4) Other	1434										
d. Mathematical Sciences (Total)	1441										
e. Computer Sciences (Total)	1442										
f. Life Sciences (Total)	1450										
(1) Agricultural	1451										
(2) Biological	1452										
(3) Medical	1453										
(4) Other	1454										
g. Psychology (Total)	1460										
h. Social Sciences (Total)	1470										
(1) Economics	1471										
(2) Political science	1472										
(3) Sociology	1473										
(4) Other	1474										
i. Other Sciences (Total)	1480										
j. Total (sum of a through i)	1400										

Please EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other non-science and engineering fields. * Includes NIH.

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

**Survey of Research and Development Expenditures at
Universities and Colleges, FY 1998**

OPTIONAL ITEM 3A

Current Fund Expenditures for Research Equipment

The National Science Foundation is continuing its evaluation of data provided in Item 3 of its Survey of Research and Development Expenditures at Universities and Colleges (academic R&D expenditures survey). To help NSF better understand what is being reported as current fund expenditures for research equipment, please complete the optional item printed below.

OPTIONAL ITEM 3A

For reporting on Item 3 of this survey, please indicate the dollar threshold value that your institution uses to classify expenditures for research equipment as current fund expenditures.

FY 1998:

- \$500
- \$1,000
- \$1,500
- \$2,000
- \$3,000
- \$5,000
- Other (specify) \$_____

FY 1999 Plans:

- \$500
- \$1,000
- \$1,500
- \$2,000
- \$3,000
- \$5,000
- Other (specify) \$_____

Comments:
